



THE

Art of Distillation:

OR,

A Treatise of the choicest *Spagyricall*
Preparations, Experiments, and Curiosities,
performed by way of DISTILLATION.

Together with the Description of the choicest
FURNACES and VESSELS used by
Ancient and Modern CHYMISTS.

And the Anotomy of GOLD and SILVER, with the chiefest
Preparations and Curiosities thereof; together with their *Virtues.*
In SIX BOOKS.

By JOHN FRENCH Dr. in Physick.

To which is added in this Third Impression

Calcination and Sublimation:

In TWO BOOKS.

AS ALSO,

The LONDON-DISTILLER

Exactly and truly shewing the way (in words at length, and
not in mysterious *Characters and Figures*) to draw all sorts of

SPIRITS and STRONG-WATERS;

Together with their *Virtues*, and other *Excellent Waters.*

L O N D O N :

Printed by E. Cotes for T. Williams at the Bible in Little-Britain. 1664.

Then Deloraine in terror took
 From the cold hand the mighty book,
 With iron clasped, and with iron bound;
 He thought as he took it, the dead man frowned.
 Scott's Lay of the Last Minstrel,
 of Religion and Superstition.—Vide Rambler.

Calcination and Sublimation:

IN TWO BOOKS.

THE LONDON DISTILLER

Exactly and truly shewing the way for words and
 spirits and strong-waters,
 Together with their virtues, and other excellent features.

LONDON:

Printed by R. Galt, for the Author, at the Sign of the Anchor, in St. Paul's Church-yard.



To my much Honoured Friend

TOBIAS GARBRAND,

DOCTOR OF PHYSICK, and Principal
of Gloucester-Hall in OXFORD.

Sir!



*T*is my ambition to let the world know upon what score it is that I do especially honour men. It is not Sir! as they are high born Heirs of the great Potentates, for which most honour them; (and upon which account I also shal not deny them their due) but as they excel in honesty, and are friends to Art. That poor Philosophers should take no delight in riches, and rich men should take grent delight in Philosophy, is to me an argument, that there is more delight, honour, and satisfaction in the one then in the enjoyment of the other. I once read of a noble mans Porter that let in all that were rich appavelled, but excluded a poor Philosopher, but I should, if I had been in his place,

The Epistle Dedicatory.

place, have rather let in the Philosopher, without the gay clothes, than the gay clothes without the Philosopher. As long as I have sense or reason, I shall improve them to the honour of Art, especially that of Alchymie. In the perfection thereof there are riches, honour, health, and length of dayes: by it Artefius lived 1000 years, Flammell built 28 Hospitals with large revenues to them, besides Churches and Chappels; for it, both they and divers more were accounted Philosophers, and wise men, which sounds more honourably in my ears, than all the ratling and empty titles of honour whatsoever besides. In the perfection of this Art, I mean the accomplishing of the Elixir, is the Sulphur of Philosophers set at liberty, which gratifies the releasers thereof with three Kingdoms, viz. Vegetable, Animal, and Mineral, and what cannot they do, and how honourable are they, that have the command of these? They may command Lead into Gold, dying plants into fruitfulness, the sick into health, old age into youth, darkness into light, and what not? A moneth would fail to give you an account of their power and dominations. Now for the effecting of this, I shall besides what I have advised in the Epistle to the Reader, say only this; Court the Mother, and you win the Daughter; prevail with Nature, and the fair Diana of the Philosophers is at your service.

Now

The Epistle Dedicatory.

Now if you cannot prevail with Nature for the fairest of her daughters, viz. the Mercury of Philosophers, yet she hath other daughters of wonderful beauty also, as are the Essences, and Magisteries of Philosophers, which also are endowed with riches, honour, and health, and any of these you may more easily prevail with their Mother Nature for. This Art of Alchymie is that Solary Art, which is more noble than all the other six Arts and Sciences, and if it did once thoroughly shine forth out of the clouds whereby it is eclipsed, would darken all the rest, (as the Sun doth the other six Planets) or at least swallow up their light. This is that true natural philosophy which most accurately anatomizeth Nature and natural things, and ocularly demonstrates the principles and operations of them: That empty natural philosophy which is read in the Universities, is scarce the meanest hand-maid to this Queen of Arts. It is pity there is such great encouragement for many empty, and unprofitable Arts, and none for this, and such like ingenuities, which if promoted, would render an University far more flourishing, than the former. I once read or heard, of a famous University beyond Sea, that was fallen into decay, through what cause I know not: but there was a general counsel held by the learned, how to restore it to its primitive glory: The Medium at last agreed

The Epistle Dedicatory.

upon, was the promoting of Alchymie, and encouraging the Artists themselves: But I never expect to see such rational aetings in this nation till shadows vanish, substances flourish, and truth prevail; which time I hope is at hand and desired by all true artists, and to my knowledge, especially by your self, upon which account I truly honour you. Now to your self therefore I crave leave to adumbrate something of that Art which I know you will be willing for the publick good to promote. I dedicate this Treatise to you, not that it is worthy of your acceptance, but that it may receive worth by your accepting of it. I present it to you (as men bring lead to Philosophers to be tinged into gold) to receive the stamp of your favour, and approbation, that it may pass cnrrant, with acceptance amongst the sons of Art, whereby you will continue to oblige him who is

LONDON,

November,
25. 1650.

SIR,

Your most obliged Servant,

John French.

There was a John French;
of Broughton, near Bon-
bury, in the Co. of Oxford,
who practised Physick in
the parliament army; he
died in 1657, near Boulogne;
in France. Nobles Mem. off. Cromwell. 2. 278.

Dr. John French wrote on the Yorkshire paper
(Harrogate). Fuller's worthies.

To the Reader.



Here is a glut of Chymical books, but a scarcity of Chymical truths: Nature and Art affords variety of Spagirical Preparations; but they are as yet partly undiscovered, partly dispersed in many books, and those of divers Languages, and partly reserved in private mens hands. When therefore I considered what need there is of, and how acceptable a general Treatise of Distillations might be, especially to our English Nation (and the rather since Baker upon Distillations is by reason of the description of a few Furnaces, and Vessels therein, besides which there is small variety either of Preparations, or Curiosities, sold at such a high rate) I thought I could do them no better service then to present them with such a Treatise of that subject, which should contain in it the choicest preparations of the selectest Authors, both ancient and modern, and these of several languages, and which I have attained by my own long and manual experience, together with such as I have by way of exchange purchased out of the hands of private men, which they had monopolized as great secrets: But on the other hand, when I considered what a multitude of Artists there are in this Nation, from many of which more and better things might be expected, then from my self; I was at a nonplus in my resolutions, fearing it might be accounted an unpardonable presumption in me to undertake, that which might be better performed by others: But for the avoiding of this aspersum, be pleased to understand, that I present not this to the world under any other notion than of a rough draught (which indeed is the work of the more unskilful, and therefore of my self, without exception) to be polished by the more expert Artist. I rejoyce as at the break of the day after a long tedious night, to see how this solitary Art of Alchymie begins for to shine forth out of the clouds of reproach, which it hath a long time undeservedly layen under. There are two things which have a long time eclipsed it, viz. the mists of Ignorance, and the specious lunary body of deceit. Arise O Sun of truth, and dispel these interposed fogs,

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fogs, that the *Queen of Arts* may triumph in splendour! If men did believe what this Art could effect, and what variety there is in it, they would be no longer straightened by, nor bound up to or jurare in verba Galeni, vel Aristotelis, but would now subscribe a new engagement to be true and faithful to the principles of *Hermes*, and *Paracellus*, as they stand established without *Aristotle* their Prince, and *Galen*, and *Hippocrates*, their Lords and Masters. They would no longer stand dreaming forth, Sic dicit Galenus, but Ipse dixit Hermes. I desire not to be mistaken: as if I did deny *Galen* his due, or *Hippocrates* what is his right, for indeed they wrote excellently in many things, and deserved well thereby; That which I cannot allow of in them is their strict observation of the quadruplicity of humours (which in the School of *Paracellus*, and writings of *Helmont*, where the anatomy of humours hath been more rationally and fully discussed, hath been sufficiently confuted.) and their confining themselves to such crude Medicines, which are more fit to be put into Spagyricall vessels for a further digestion, then into mens bodies to be fermented therein. Certainly if men were less ignorant they would preferre Cordial Essences before Crude Juices, Balsamical Elixirs before Flegmatick Waters, the Mercury of Philosophers before common Quick-silver. But many men have so little insight in this Art, that they scarce believe any thing in it beyond the Distilling of Waters, and Oils, and extracting of Salts; nay many that pretend to Philosophy, and would be accounted Philosophers, are so unbelieving, that, as saith *Sandivogius*, although he would have intimated the true Art to them word by word, yet they would by no means understand or believe that there was any water in the Philosophers sea. And as he in this case, so I in another know divers that will not believe that common Quick-silver can of it self be turned wholly into a Transparent Water, or that glass can be reduced into Sand and Salt (of which it is made, saying that fusio vitrificatoria est ultima fusio, or that an herb may be made to grow in two hours, and the Idea of a plant to appear in a glasse, as if the very plant it self were there, and this from the Essence thereof, and such like preparations as these: the two former whereof may be done in half an hour, but the latter requires a longer time, but yet possible. And for the possibility of the Elixir, you shall as soon persuade them to believe they know nothing (which is very hard, nay an impossible thing

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thing to do) then to believe the possibility thereof. If there be any such thing (say they) why are not the possessors thereof infinitely rich, famous, do many miracles and cures, and live long? These Objections, especially some of them, scarce deserve an answer; yet I shall, to skew the vanity of them, make some reply therunto. Did not Artefius by the help of this medicine live 1000. years? Did not Flammell build fourteen Hospitals in Paris, besides as many in Boloigne, besides Churches, & Chappels, with large revenues to them all? Did not Bacon do many miracles? and Paracelsus many miraculous cures? Besides what saith Sandivogius? I have, saith he, incurre'd more dangers and difficulties by discovering my self to have this secret, then ever I had profit by it; and whosoever I would discover my self to the great Ones, it alwaies redounded to my prejudice, and danger. Can a man that carrieth alwaies about him 10000. pounds worth of Jewels and gold, travel every where up and down, safe, and not be robbed? Have not many rich money-mongers been tortured into a confession where their money was concealed? Did you never hear of a vapouring fellow in London, that pretending to the knowledge of this Mystery, was on a sudden caught aside by money-thirsters, and by them tormented with tortures little less then those of hell, being forced thereby (if he had known it) into a discovery of it? To say nothing of being in danger of being subjected, and enslaved to the pleasure of Princes, and of becoming instrumental to their luxury, and tyranny, as also being deprived of all liberty, as once Raimundus Lullius. The truth is, the greatest matter that Philosophers aim at, is the enjoyment of themselves, for which cause they have sequestred themselves from the world, and become Hermites: Well therefore, and like a Philosopher spake Sandivogius, when he said, Believe me, if I were not a man of that state and condition that I am of, nothing would be more pleasant to me, then a solitary life, or with Diogenes to live hid under a tub; for I see all things in this world to be but vanity; and that deceit and covetousness prevail much, that all things are vendible, and that vice doth excel vertue. I see the better things of the life to come before mine eyes, I rejoyce in these: Now I do not wonder, as before I did, why Philosophers when they have attained this medicine, have not cared to have their daies shortned, (although by the vertue of their medicine they could have prolonged them) for every Philosopher hath the life to come so clearly set before his eyes, as thy face is seen in a

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glasse. Thus much by way of reply to the frivolous objections of those that believe not the verity of this Art, and not only so, but will not believe it. If you should discover to them the proceess of the Philosophers Stone, they would laugh at your simplicity, and I will warrant you never make use of it. Nay if you should make proposition before them, they would think even in that there were a fallacy, so unbelieving are they: so I find them, and so I leave them, and shall for ever find them the same.

There is another sort of men by whom this art hath been much scandalized, and they indeed have brought a great Odium upon it, by carrying about, and vending their whites, and reds, their sophisticated oyls, and salts, their dangerous and ill prepared Turbithes, and Aurum vice's. And indeed it were worth while, and I might do good service for the Nation, to discover their cheats, as their sophisticating of Chymical oyls with spirit of Turpentine, and salts with salt extracted out of any wood-ashes and such like; but here is not place for so large a discourse as this would amount to. I shall only at this time relate to you how Pendorus was cheated with a sophisticated Oil of gold, for faith he, I gave 24. ducckets for the proceess of an Aurum Potabile which was much cryed up and magnified at Prague, but at last it proved to be nothing but a mixture of oil of Camphire, Cloves, Fennel-seed, and of Virriol tinged with the leaves of Gold. I know I shall incur the displeasure of some, but they are sophisticating, cheating mountebanks, who indeed deserve to be bound to the peace, because many men, I dare swear, through their means, go in danger of their lives. Better it is that their knavery should be detected, then a noble Art through their villany be clouded; and aspersed.

Now we must consider that there are degrees in this Art; for there is the accomplishing of the Elixir it self, and there is the discovering of many excellent essences, magisteries, and spirits, &c. which abundantly recompence the discoverers thereof with profit, health and delight. Is not Paracellus by Ludus, that dissolves the stone, and all tartarous matter in the body into a liquor, worth finding out? Is not his Timea Scurra a most noble Medicine, that extinguisheth all preternatural heat in the body in a moment? Is not his Alchabest a famous dissolvent, that can in an instant dissolve all things into their first principles; and withal is a specificum against all distempers of the liver? Who would not take pains to make the quintessence of Honey and the

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Philosophical Spirit of Wine, which are cordial and balsamical even to admiration? A whole day would fail to reckon up all the excellent, admirable rarities that by this spagyricall Art might be brought to light; in the searching out of which, why may not the Elixir it self at last be attained unto? Is it not possible for them that pass through many Philosophical preparations, to unfold at last the Riddles, and Hieroglyphicks of the Philosophers? or were they all meer Phantasmes? Is there no fundamentum in re for this secret? Is there no Sperme in gold? Is it not possible to exalt it for multiplication? Is there no universal Spirit in the world? Is it not possible to find that collected in one thing, which is dispersed in all things? What is that which makes gold incorruptible? What induced the Philosophers to examine gold for the matter of their medicine? Was not all gold once living? Is there none of this living gold, the matter of Philosophers, to be had? Did Sandivogius the last of known Philosophers spend it all? Surely there is matter enough for Philosophers, and also some Philosophers at this day for the matter, although they are unknown to us. There are, saith Sandivogius, without doubt many men of a good conscience both of high and low degree (I speak knowingly) that have this Medicine and keep it secretly. If so, let no man be discouraged in the prosecution of it, especially if he take along with him the five Keyes which Nollius sets down, which indeed all Philosophers with one consent enjoin the use and observation of.

1. Seeing it is a thing divine, and celestial, it must be sought for from above, and that not without a full resolution for a pious, and charitable improvement of it.
2. Before thou betakest thy self to the work, propound to thy self what thou seekest for, and enter not upon the practique till thou art first well versed in the theory; for it is much better to learn with thy brains and imagination, then with thy hands, and costs, and especially study nature well, and see if thy proposals be agreeable to the possibility thereof.
3. Diligently read the sayings of true Philosophers, read them over again and again, and meditate on them, and take heed thou dost not read the writings of imposters instead of the Books of the true Philosophers. Compare their sayings with the possibility of Nature, and observe places with clear, and where Philosophers say they have erred, do thou beware, and consider well the general axioms of Philosophers, and read so long till thou seeest a sweet Harmony and consent in the sayings of them.

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4. Imagine not high things, but in all things imitate nature, viz. in matter; in removing what is Heterogeneous; in weight; in colour; in fire; in working; in slowness of working; and let not thy operations be vulgar, neither thy vessels; work diligently and constantly.

5. If it be possible, acquaint thy self thoroughly with some true Philosophers. Although they will not directly discover themselves that they have this secret; yet by one circumstance or another it may be concluded that they were not ignorant of it? Would not any rational man that had been conversant with Bacon, and seeing him do such miraculous things; or with Sandivogius who did intimate the Art to some word by word, have concluded that they were not ignorant of it? There have been Philosophers, and perhaps still are, that although they will not discover how it is made, yet may certifie you, to the saving of a great deal of cost, pains, and time, how it is not made: and to be convinced of an error is a great step to the truth. If Ripley had been by any Tutor convinced of those many errors before he had bought his knowledge at so dear a rate, he had long before, with less charges attained to his blessed desire.

And as a friendly tutor in this, so in all spagyricall preparations whatsoever, is of all things most necessary. A faithful well experienced master will teach thee more in the mysteries of Alchymie in a quarter of a year, then by thine own studies and chargeable operations thou shalt learn in seven years. In the first place therefore, and above all things apply thy self to an expert, faithful, and communicative Artist; and account it a great gain, if thou canst purchase his favour, though with a good gratuity, to lead thee through the manual practice of the chiefest and choisest preparations. I said apply thy self to an Artist, for there is scarce any process in all Chymistry so easie, that he that never saw it done will not be to seek, and commit some errors in the doing of it. I said expert, that he may be able to instruct thee aright, faithful; that as he is able, so he may faithfully perform what he promisseth; and communicative, that he may be free in discovering himself and his Art to thee. The truth is, most Artists reserve that to themselves, which they know; either out of a desire to be admired the more for their undiscovered secrets, or out of envie to others knowledge: But how far this humour is approvable in them, I leave it others to judge; and as for my part I have here communicated upon the account of a bare acceptance only what I have with many years pains, much reading, and

great

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great costs known. There is but one thing which I desire to be silent in as touching the process thereof; as for the thing it self to be prepared, what it is, I have elsewhere in this Treatise expressed; and the preparing of that, is indeed a thing worthy of any ones knowing, and which perhaps hereafter I may make known to some. I am of the same mind with Sandivogius, that that fourth Monarchy which is Northern, is dawning, in which (as the ancient Philosophers did divine) all Arts and Sciences shall flourish, and greater and more things shall be discovered then in the three former. These Monarchies the Philosophers reckon not according to the more potent, but according to the corners of the world, whereof the Northern is the last, and indeed is no other then the golden age, in which all tyranny, oppression envie, and covetousness shall cease; when there shall be one Prince, and one people, abounding with love and mercy, and flourishing in peace; which day I earnestly expect.

In the mean time, if what I know may add to thy experience, thou hast it freely; and I hope this will be an occasion to set the more expert Artists on work, for the communicating their experiences to the world. One thing (courteous Reader) let me desire thee to take notice of, viz. whereas every process is set down plain, yet all of them must be proceeded in secundum Artem Alchymistæ, (which Art indeed is obtained by experience) and therefore many that work according to the bare process, effect not what they intend; and the reason is, because there was some Art of the Alchymist wanting. To conclude, if thou knowest more or better things then these, be candid, and impart them; (considering that I wrote these for them that know them not) if not, accept of the endeavours of thy Friend.

JOHN FRENCH.

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FINIS.



*What DISTILLATION is,
and the kinds thereof.*

B O O K I.



Shall not stand here to shew whence the Art of Distillation had its original, as being a thing not easily to be proved, and if known, yet little conducing to our ensuing Discourse. But let us understand what Distillation is, of which there are three principal and chief definitions, or descriptions.

1. Distillation is a certain Art of extracting the Liquor, or the humid part of things by vertue of heat (as the matter shall require) being first resolved into a vapour, and then condensed again by cold.

2. Distillation is the art of extracting the spiritual, and essential humidity from the flegmatick, or of the flegmatick, from the spiritual.

3. Distillation is the changing of gross thick bodies into a thinner, and liquid substance, or separation of the pure liquor from the impure feces.

I shall treat of Distillation according to all these three acceptations, and no otherwise: hence I shall exclude Sublimation, and Calcination, which are of dry substances, being particularly

reated of hereafter, unless I shall by the way make use of either, in relation to the perfecting of any kind of Distillation.

Now because all, or most of these Distillations are to be performed by heat, it will be necessary to understand how many degrees of heat there are, and which are convenient for every operation: and they are principally four.

The first is only a warmth, as is that of Horse dung, of the Sun, of warm water, and the vapour thereof, which kind of heat serves for putrefaction, and digestion.

2. The second is of seething water, and the vapour thereof, as also of ashes, and serves to distill those things which are subtile, and moist, as also for the rectifying of any Spirit or Oil.

3. The third is of sand and filings of Iron, which serves to distill things subtile, and dry, or gross and moist.

4. The fourth is of a naked fire, close, open, or with a blast which serves to distil Metals and Minerals, and hard gummy things, as Amber, &c. I do not say serves only to distil these, for many of the former Distillations are performed by this heat, as the distilling of Spirits and Oils, &c. in a Copper-still over a naked fire; but these may be distilled by the two former degrees of heat; but Minerals and such like cannot but by this fourth degree alone.

Of the matter and form of Furnaces.

THe matter of Furnaces is various, for they may be made either of brick and clay, or clay alone with whites of Eggs, hair, and filings of Iron, (and of these, if the clay be fat, are made the best, and most durable Furnaces) or of Iron, or Copper cast or forged. The forms also of Furnaces are various. The fittest form for Distillation is round; for so the heat of the fire being carryed up equally, diffuseth it self every way, which happens not in a Furnace of another figure, as four square or triangular, for the corners disperse and separate the force of the fire. Their magnitude must be such as shall be fit for the receiving of the vessel; their thickness so great as necessity shall seem to require; only thus much observe, that if they be

be made of forged Iron or Copper, they must be coated with-
in side, especially if you intend to use them for a strong fire.
They must be made with two bottoms distinguished, as it were,
into two forges, the one below which may receive the ashes,
the other above to contain the fire. The bottom of this upper
must either be an Iron grate, or else an Iron plate perforated
with many holes, that so the ashes may the more easily fall
down into the bottom, which otherwise would put out the
fire. Yet some Furnaces have three partitions, as the Fur-
nace for Reverberation, and the Register Furnace. In the
first and lowest, the ashes are received; in the second, the fire
is put; and, in the third, of the Furnace for Reverberation, the
matter which is to be reverberated. This third ought to have
a semicircular Cover, that so the heat may be reflected upon the
contained matter. The bottom of the third and uppermost
partition of the Register Furnace must be either a plate of Iron,
or a smooth stone perforated with holes, having stopples of
stones fitted thereunto, which you may take out or put in, as you
would have the heat increased or decreased. In the top or upper
part of all these Furnaces where it shall seem most fit, there must
be two or three holes made, that by them the smoak may more
freely pass out, and the air let in to make the fire burn the
stronger, if need require, or else which are to be shut with stop-
ples made fit to them. The mouths of the forementioned parti-
tions must have shutters, just like an Ovens-mouth, with which
you may shut them close, or leave them open if you would
have the fire burn stronger. But in defect of a Furnace, or fit mat-
ter to make one, we may use a Kettle, or a Pot, set upon a Tre-
foot, as we shall shew when we come to give you a description
of the Furnace and Vessels. The truth is, a good Artist will make
any shift, yea, and in half a daies time make a Furnace, or some-
thing equivalent to it, for any operations.

Of Vessels fit for Distillation.

Vessels for Distillation, are of various matter, and form. For
they may be either of Lead, which I altogether disapprove
of, for that they turn the Liquors into a white and milky sub-
stance, besides the malignity they give to them; or, they may

be of Copper, Iron, or Tin, which are better then the former; or of Jug-metal, or Potters-metal glazed, or Glass, which are the best of all, where they may be used without fear of breaking or melting. Some make them of Silver, but they are very chargeable. They that are able and willing may have the benefit of them.

Of Lutes, for coating of Glasses, and for Closures, as also several Ways of stopping Glasses.

THe best Lute is made thus, *viz.* Take of Loam and Sand tempered with salt water (which keeps it from cleaving) to these add the *Caput Mortuum* of Vitriol, or *Aqua fortis*, and scaling of Iron, and temper them well together, and this serveth to coat Retorts, or any Glass vessels that must endure a most strong fire, and will never fail if well made. Some add Flax, beaten Glass, and Pots, and Flint, &c.

Take unslaked Lime, and Linseed Oil, mix them well together, and make thereof a Lute, which will be so hard, that no spirit will pierce it, and this serves for the closure of Glasses.

Or,

Take Loam and the white of an Egg, mix them into a Past, and spread it on a cloth. This also is a good closure.

Or,

Moisten an Ox Bladder in the white of an Egg beaten to water, or in defect of a Bladder, use Paper, and bind them round where the Vessels are joyned together, one over another two or three times.

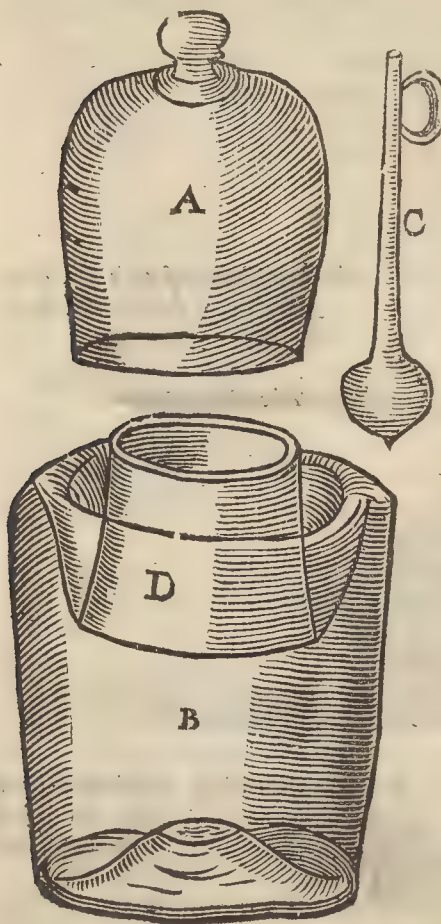
Or,

If the spirits in the Glass be exceeding corrosive, then use the *Caput Mortuum* of *Aqua fortis*, Linseed Oil, and Chalk mixed together.

If a Glass be cracked, then wet a linnen cloth in the white of an Egg beaten to water, and lay upon it, and upon that, presently whilest it is wet, sift some unslaked Lime, and press it close with your hand; when that is dry, lay on another cloth thus wet, as before, and on it sift more Lime.

A vessel may be stoppt so close with Quick-silver, that no Spirit can breath forth; by which means the Glass will be preserved

ved from breaking by the inclosed Spirits, (for the head will first yield before the Glass breaks) the Vessel must be made thus. This also is a good way to preserve Spirits already distilled from the air.



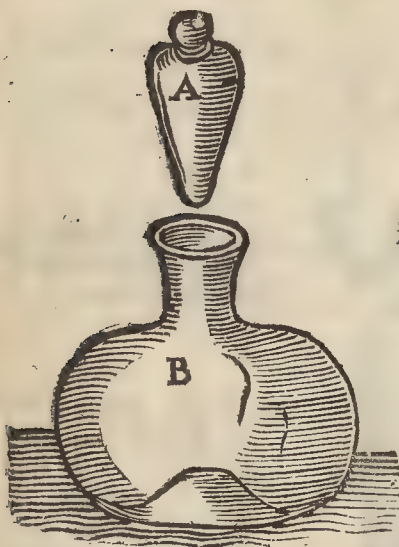
A, Signifies the head or cover.

B, The body or vessel it self.

C, The little Glass to take out the Liguor that is in the Vessel because it cannot well be poured out, as by reason of the Quick-silver which will be apt to be lost, so by reason of the form of the Vessel it self.

D, A false bottom where the Quick-silver must lie, into which the head must be set upon the Quick-silver, that so the Quick-silver may come above the bottome of the Head.

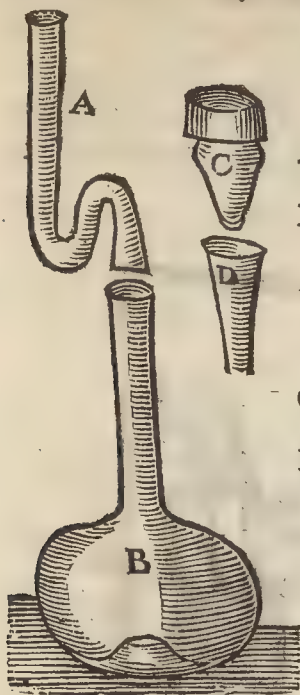
Also you may make stopples of Glasses ground so smooth, the stopples being fastened in a Tourne and moystned with Emery and water, and so turned in the mouth of the bottle till it be fit, then wipe off the Emery, and smear over the stopple with a liniment made with fine washed Earth and Oil, and so pollish it, that no vapour can get forth by them, as you may see by this pattern.



*A, Signifies the stopple of Glas
ground very smooth and fit to
mouth of the Vessel.*

B, The Glass-Body.

But the best way is to have a Crooked Pipe, which may have Quick-silver in it, and be well luted to the body that no Spirit can get forth : and by this means the Glass will never break, for the Quick-silver will first yield.



A, The crooked pipe.

B, The Glass-body.

Or upon the top of a Glass-stopple there may be fastned some lead, that if the spirit be too strong it will only heave up the Stopple and let it fall down again.

C, The Glass-stopple with lead on the top.

D, The mouth of the vessel it self.

Now the way to nip up a glass, or seal it up Hermitically, is after this manner.

Put what matter you please into a bolt-head with a long neck or pipe, put this pipe through a pan that hath a little hole made in the bottome thereof, that the top of it may be three or four inches above the pan, close up the hole round about the pipe with clay; then put coals in the pan, and kindle first those that are farthest off from the pipe, that the heat may come by degrees to the pipe (for otherwise a suddain heat will break it) when the pipe is hot, blow the coals about it till it melt, then with a pair of shears cut it off where it is melted, and then with a pair of tongues, made hot, close it together.

Note, that after you have closed it, you must put the burning coals

coals upon the top thereof, and let it thus stand till all be cold which must be done by degrees; for otherwise the glass will certainly crack in the place where it is nipped.

Note, that the pan must stand upon some frame, or some hollow place, that there may be a passage for the pipe to come through it.

Also the Bolt-head must stand upon a Trefoot, or some other firm place, according to this Figure.



*An Explanation of such hard words, and tearms of art,
which are used in this ensuing Treatise.*

A *Malgamation*, is a calcining or corroding metals with Quick-silver, and it is done thus: Take any metal except Iron, beate it into thin leaves, or very small powder, mixt it with about

about 8 parts of Quick-silver (which may the better be done if both be heated first) that they may become one uniform masse; evaporate the Quick-silver over the fire, and the metal will be left in the bottom as a thin calx.

Calcination, is a reducing any thing into a Calx, and making it friable, and it may be done

Two wayes --	{	By Firing	{	By reducing into ashes.
				By reverberating.
	{	By Corosion	{	By Amalgamation,
				Precipitation,
Fumigation or Vaporation,				
			Cementation or Stratification.	

Circulation, is when any liquor is so placed in digestion, that it shall rise up and fall down, rise up and fall down, and so do continually, and thereby become more digested, and mature, for which use for the most part we use a Pellican.

Clarification, is the separating of the gross feces from any decoction or juice, and it is done

Three wayes --	{	By the white of an Egge,
		By Digestion,
		By Filtration.

Coagulation, is the reducing of any liquid thing to a thicker substance by evaporating the humidity.

Cohobation, is the frequent abstraction of any liquor, poured oftentimes on the feces from whence it was Distilled, by Distillation.

Congelation, is when any liquor being decocted to the height, is afterward, by sealing into any cold place, turned into a transparent substance like unto Ice.

Corrosion, is the Calcining of bodies by corrosive things.

D.

Decantation, is the pouring off of any liquor which hath a settling, by inclination.

Deliquium, is the dissolving of a hard body into a liquor,

as salt, or the powder of any calcined matter, &c. in a moist, cold place.

Descension, is when the essential juice dissolved from the matter to be distilled doth descend, or fall downward.

Despumation, is the taking off the froth that floats on the top with a spoon or feather, or by percolation.

Distillation, is the extracting of the humid part of things by vertue of heat; being first resolved into a vapour, and then Condensed again by cold. Thus it is generally taken; but how more particularly, I shall afterward shew.

Digestion, is a contracting, or maturation of crude things by an easie, and gentle heat.

Dissolution, is the turning of bodies into a liquor by the addition of some humidity.

Dulcoration, or dulcification is either the washing off the salt from any matter that was calcined therewith, with warm water, in which the salt is dissolved, and the matter dulcified: or, it is a sweetning of things with sugar, or honey, or syrup.

E.

Elevation, is the rising of any matter in manner of fume, or vapour by vertue of heat.

Evaporation, or *Exhalation*, is the vapouring away of any moisture.

Exaltation, is when any matter doth by digestion attain to a greater purity.

Expression, is the extracting of any liquor by the hand, or by a press.

Extraction, is the drawing forth of an essence from a corporal matter by some fit liquor, as spirit of wine, the feces remaining in the bottom.

F.

Fermentation, is when any thing is resolved into it self, and is rarified, and ripened, whether it be done by any ferment added to it, or by digestion only.

Filtration, is the separation of any liquid matter from its feces by making it run through a brown paper made like a tunnel, or a little bag of wollen cloth, or thorough shreds.

Fixation,

Book I. Of the Art of Distillation.

II

Fixation, is the making of any volatile, spiritual body endure the fire, and not fly away; whether it be done by often reiterated Distillations, or Sublimations, or by the adding of some fixing thing to it.

Fumigation, is the calcining of bodies by the fume of sharp spirits, whether vegetable or mineral, the bodies being laid over the mouth of the vessel wherein the sharp spirits are.

H.

Humectation or *Irrigation*, is a sprinkling of moisture upon any thing.

I.

Imbibition, is when any dry body drinks in any moisture that is put upon it.

Impregnation, is when any dry body hath drank in so much moisture that it will ad mit of no more.

Incorporation, is a mixtion of a dry and moist body together, so as to make an uniform masse of them.

Infusion, is the putting of any hard matter into liquor, for the vertue thereof to be extracted.

Insolation, is digesting of things in the Sun.

L.

Levigation, is the reducing of any hard matter into a most fine powder.

Liquation, is a melting, or making any thing fluid.

Lutation, is either the stopping of the orifices of vessels that no vapour pass out, or the coating of any vessel to preserve it from breaking in the fire.

M.

Maceration, is the same as Digestion.

Maturation, is the exalting of a substance that is immature and crude, to be ripened and concocted.

Menstruum, is any Liquor that serves for the extracting the essence of any thing.

P.

Precipitation, is when bodies corroded by corrosive spirits either by the evaporating of the Spirits remain in the bottome, or by pouring something upon the Spirit, as Oyl of Tarrar, or a good quantity of water, do fall to the bottome.

Purification, is a separation of any Liquor from its feces, whether it be done by Clarification, Filtration, or Digestion.

Putrefaction, is the resolution of a mixt body into it self by a natural gentle heat.

Quintessence, is an absolute, pure and well digested medicine, drawn from any substance, either animal, vegetable, or mineral.

Rectification, is either the drawing of the flegm from the Spirit, or of the Spirit from the flegm, or the exaltation of any Liquor by a reiterated Distillation.

Reverberation, is the reducing of bodies into a Calx by a reflecting flame.

Solution, is a dissolving or attenuating of bodies.

Stratification, is a strewing of corroding powder on plates of metal by course.

Sublimation, is an elevating, or raising of the matter to the upper part of the vessel by way of a subtile powder.

Subtiliation, is the turning of a body into a Liquor, or into a fine powder.

Transmutation, is the changing of a thing in substance, colour, and quality.

Volatile, is that which flyeth the fire.

Rules to be considered in Distillation.

Make choyce of a fit place in your house for the furnace, so that it may neither hinder any thing, nor be in danger of the falling of any thing into it that shall lye over it: for a forcing furnace, it will be best to set it in a chimney, because a strong heat is used to it, and many times there are used brands which will smoak, and the fire being great, the danger thereof may be prevented, and of things of a maligne venenate quality being distilled.

distilled in such a furnace, the fume, or vapour, if the glass should break, may be carryed up into the chimney, which otherwise will flye about the room to thy prejudice.

2.

In all kinds of Distillation, the vessels are not to be filled too full: for if you distil Liquors, they will run over; if other solidier things, the one part will be burnt before the other part be at all woked upon, but fill the fourth part of gourd, the half of Retorts, the third part of copper vessels, and in rectifying of spirits fill the vessel half full.

3.

Let those things which are flatulent, as wax, rosin, and such like, as also those things which do easily boyle up, as honey, be put in a lesser quantity, and be distilled in greater vessels, with the addition of salt, sand, or such like.

4.

There be some things which require a strong fire, yet you must have a care that the fire be not too vehement for fear their nature should be destroyed.

5.

You must have a care that the lute with which vessels are closed do not give vent, and alter the nature of the Liquor, especially when a strong fire is to be used.

6.

Acid Liquors have this peculiar property that the weaker part goes forth first, and the stronger last; but in fermented and liquors, the Spirit goeth first, then the Phlegm.

7.

If the liquor retain a certain Empyreuma, or smatch of the fire, thou shalt help it by putting it into a glasse close stoppt, and so exposing it to the heat of the sun, and now and then opening the glasse that the fiery impression may exhale, or else let the glasse stand in a cold moist place.

8.

When you put water into a seething Balneum wherein there are glasses, let it be hot or else thou wilt endanger the breaking of the glasses.

9.

When thou takest any earthen, or glass vessel from the fire, expose it not to the cold aire too suddenly for fear it should break.

10.

If thou wouldest have a Balneum as hot as ashes, put sand or sawdust into it, that the heat of the water may be therewith kept in, and made more intense.

11.

If you would make a heat with horse-dung, the manner is this, *viz.* make a hole in the ground, then lay one course of horse-dung a foot thick, then a course of unslaked lime half a foot thick, then another of dung, as before, then set in your vessel, and lay round it lime and horse-dung mixt together; press it down very hard; you must sprinkle it every other day with water, and when it ceaseth to be hot, then take it out and put in more.

12.

Note, that alwayes the sand or ashes must be well sifted, for otherwise a coal or stone therein may break your glass.

13.

The time for putrefaction of things is various: for if the thing to be putrefied be vegetables and green, less time is required; if dry, a longer; if Minerals, the longest of all. Thus much note, that things are sooner putrefied in cloudy weather then in fair.

14.

If thou wouldest keep Vegetables fresh and green all the year, gather them in a dry day, and put them into an earthen vessel, which you must stop close, and set in a cold place: and they will, as saith *Glauberus*, keep fresh a whole year.

15.

Do not expect to extract the essence of any Vegetable, unless by making use of the feces, left after distillation: for if you take those feces, as for example, of a Nettle, and make a decoction thereof, and strain it and set it in the frost, it will be congealed and in it will appear a thousand leaves of Nettles with their prickles, which when the decoction is again resolved by heat, vanish

vanish away, which shews that the essence of the Vegetables lies in the salt thereof.

16.

In all your operations, diligently observe the processes which you read, and vary not a little from them, for sometimes a small mistake or neglect spoils the whole operation, and frustrates your expectation.

17.

Try not at first experiments of great cost, or great difficulty; for it will be a great discouragement to thee, and thou wilt be very apt to mistake.

18.

If any one would enter upon the practices of Chymistry, let him apply himself to some expert artist for to be instructed in the manual operation of things: for by this means he will learn more in two moneths, than he can by his practise and study in seven years, as also avoid much pains and cost, and redeem much time which else of necessity he will lose.

19.

Enter not upon any operation, unless it be consistent with the possibility of nature, which therefore thou must endeavour, as much as possibly may be, to understand well.

20.

Do not interpret all things thou readeest according to the literal sense; for Philosophers when they wrote any thing too excellent for the vulgar to know, expressed it enigmatically, that the sons of Art only might understand it.

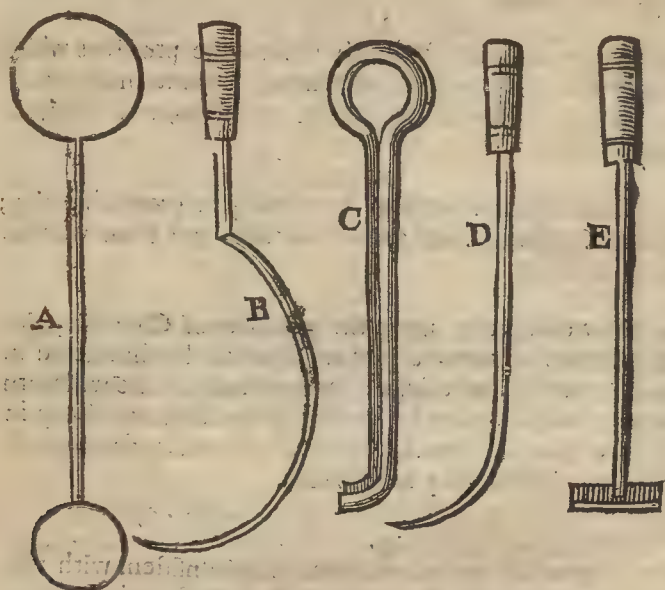
21.

In all thy operations, propose a good end to thy self, as not to use any excellent experiment that thou shalt discover, to any ill end, but for the publick good.

22.

It will be necessary that thou knowest all such instruments that thou shalt use about thy Furnace and Glasses, whereof

whereof some are already expressed, and some more shall be here described.



- A, Signifies an iron rod with two iron rings at the ends thereof, which must be heated red hot, and applied to that part of the glass which thou wouldest break off. When thou hast held it there so long till the glass be very hot, then take it off, and drop some cold water, where thou wouldest have it break off, and it will presently crack in sunder. These rings are for such glasses as will go into them: Thou must have divers of this sort, even of all sizes.
- B, An iron hook which must be heated hot and applied to any great glass that will not go into a ring, this hook hath a wooden handle.
- C, A pair of tongs which are for divers uses.
- D, A crooked iron to rake betwixt the grates to clear them.
- E, An iron Rake to rake the ashes out of the ash hole.

A thread dipt in melted brimstone and tyed about a glass, and then fired, may serve in stead of the iron rings, and the hook.

Common Distilled simple waters, are made thus.

TAKE what hearbs or flowers you please, put them into a common cold Still, and let them distil gently.

This is the form of a common cold Still,



But note, that this kind of water is but the flegm of the Vegetable which you distil, and hath very litle vertue or odour in it; only roses and mints, and two or three more, have an odour; but all besides, have as little vertue as common distilled water.

I do not deny, but that it may be so ordered, that these kinds of waters may partake both of the smell and strength of their Vegetables in a good measure, and it is thus:

To make waters in a cold Still that shall have the full smell and vertue of the Vegetable.

TAKE what hearbs, flowers, or roots you please (so that they be green) bruise them and mix with them some leaves, and let them stand close covered for four or five dayes: then distil them after the manner aforesaid.

*Another way to make Water tast and smell
strong of its Vegetable.*

WHen you have Distilled any Vegetable in a cold Still, after the usual manner (so that you take heed you dry not the hearb too much; which you may prevent by putting a brown paper in the bottom of the Still, giving it a gentle fire, and turning the cake before it be quite dried) take the cakes that remain in the bottom of the Still, and the water that is distilled from thence (having a good quantity thereof) and put them into a hot Still, and let them stand warm for the space of 24 hours, then distil them. Then if you would have the water strong, put the said water into more fresh cakes, casting away the other, and do as before. This is the truest and best way to have the Water of any Vegetables. Also, thou shalt by this way purchase some Oyl, which is to be separated and to be kept by it self.

To make water, at any time of the year in a cold Still, without green hearbs, so that the Water shall smell strong of the hearb.

Put fair water into the body of the cold Still, then hang a bag full of that hearb that thou wouldest have the water smell of, being first dried, or seed or root thereof first bruised, then make a strong fire under the Still.

Note, that those Vegetables, of which the water is made after this and the former manner, must be of a fragrant smell, for such as have but little or no smell, cannot yield a water of any considerable odour.

*Another way to make a water taste, and smell
strong of its Vegetables.*

TAke of the dry hearb, or seed, or root, bruised; to a pound of each, put 12 pints of Spring-water, distil them in a hot Still or Alembick; and the water that is distilled off, put upon more of the fresh hearbs, seeds, or roots; do this three or four times

times, and thou shalt have a water full of the vertue of the Vegetable, being almost as strong as a spirit.

To make the Water of Roses, or other Flowers, of a grateful and pleasant smell, and that shall burn like unto spirit of Wine.

ASout of all other things, and especially nourishing things, may be had, by the help of Fermentation, a burning and fragrant spirit; so also, may be had out of Roses, which are commonly accounted cold.

Therefore take Damask Roses, gathered in a cleer air, after the dew is off, beat them very small, put them in a glass-vessele, and set them close stopt in a Cellar, that there they may ferment; and when they smell or tast sour, take of the said Flowers as much as you please, and distill them in *Balneo Maria*; and the water thence distilled, pour on another part of the said Roses, and distill it again, and so proceed upon another part of the Roses, untill all the whole quantity of the fermented Roses be distilled, alwayes keeping the feces that remain in the bottom. Then take all the water that came from the Roses, and distill it in *Balneo Maria*, and distil thence a twelfth part or thereabouts; which, if you please, you may rectifie: So have you a most grateful and most odoriferous water, which burneth like unto spirit of Wine.

Its Vertues.

It exceedingly reviveth the heart and refresheth the Spirits: It is also much used externally for its odoriferous Nature.

To make the water of the flowers of Jasmin, Honey-suckles, or Woodbine, Violets, Lillies, &c. retain the smell of their flowers.

The reason why these flowers, in the common way of Distillation yield a water of no fragrancy at all, although they themselves are very odoriferous, are, either because, if a stronger fire

be made in the distilling of them, the grosser, and more earthy Spirit cometh out with the finer, and troubleth it, as it is in case the flowers be crushed or bruised (where the odour upon the same account is lost) or because the odoriferous Spirit thereof being thin, and very subtle riseth with a gentle heat, but for lack of body, vapours away. The art therefore that is here required is, To prevent the mixtion of the grosser spirit, with the finer, and to give such a body to the finer that shall not embase it: and it is thus:

Take of either of the aforesaid flowers, gathered fresh, and at noon in a fair day, let them not at all be bruised. Infuse a handful of them in two quarts of white-wine (which must be very good, or else you labour in vain) for the space of half an hour; then take them forth, and infuse in the same wine, the same quantity of fresh flowers: this do eight or ten times; but still remember that they be not infused above half an hour, (for, according to the rule of infusion, a short stay of the body that hath a fine Spirit, in the liquor receiveth the Spirit: but a longer stay confoundeth it, because it draweth forth the earthly part withal, which destroyeth the finer:) then distil this liquor (all the flowers being first taken out) in a glasse-gourd, in a very gentle Balneo, or over a vapour of hot water, the joynts of the glass being very well closed, and thou shalt have a water of a most fragrant odour. By this means the Spirit of the wine which serves to body the fine odoriferous Spirit of the flowers ariseth as soon as the fine Spirit it self, without any earthiness mixed with it.

Note, that in defect of Wine, *Aqua vite* will serve; also strong-beer; but not altogether so well, because there is more gross earthiness in it than in wine.

The water of either of these flowers is a most fragrant perfume, and may be used as a very delicate sweet water, and is no small Secret.

A Furnace With his vessels, to distill liquors with the steam of boyling water.



A, Sheweth the head of the Alembick.
 B, The body thereof, placed in a brass vessel made for that purpose.
 C, A brass vessel perforated in many places to receive the vapour of the water. This vessel shall contain the Alembick compassed about with sawdust, not only that it may the better and longer retain the heat of the vapour, but also lest it should be broken by the hard touch of the brasen vessel.

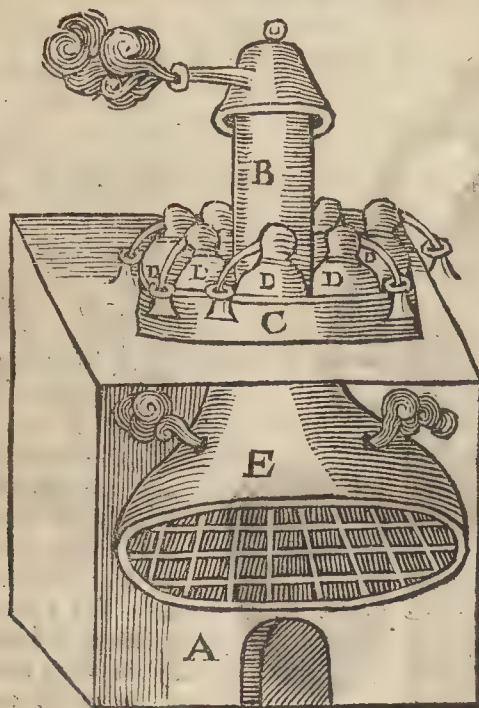
D, Sheweth the brass vessell containing the water as it is plac'd in the Furnace.

E, The Furnace containing the vessell.

F, A Funnell by which you may now and then powre in water, in stead of that which is vanisht and dissipated by the heat of the fire.

G, The Receiver.

The delineation of a Balneum Mariæ which may also serve for to distil with ashes.



A, Shews the Furnace, with the hole to take forth the Ashes.

B, Shews another furnace, as it were set in the other: now it is of Brass, and runs through the midst of the kettle made also of brass, that so the contained water or ashes may be the more easily heated.

C, The kettle wherein the water, ashes, or sand are contained.

D, The Alembick set in the water, ashes, or sand, with the mouths of the receivers.

E, The bottome of the second brass furnaces, whose top is marked

with B, which contains the fire.

A water out of Berries, is made thus:

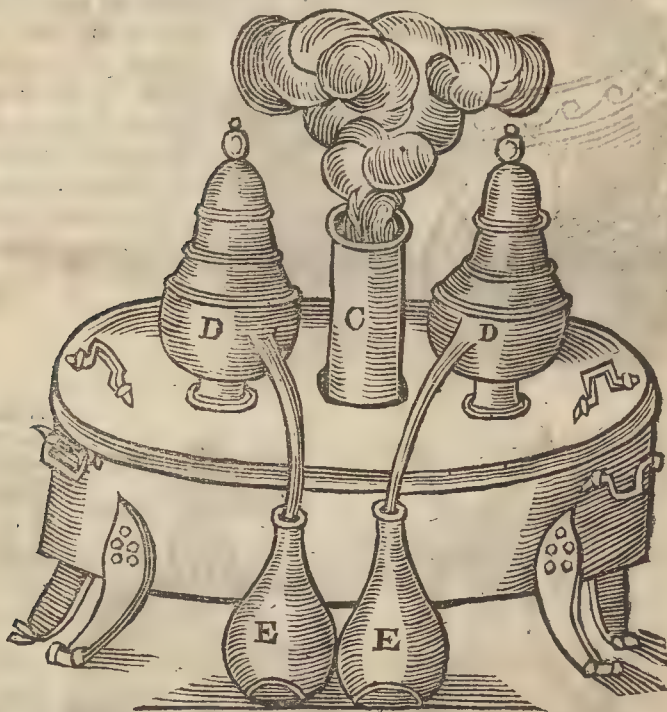
Take of what berries you please being full ripe; put them into a gourd-glass, strewing upon them a good quantity of powdered sugar, cover them close, let them stand three weeks or a moneth, then distil them in *Balneo*.

After this manner Strawberries, Raspberries, Elderberries, and Black-cherries, may be distilled: But note, that such as have stones must first be bruised together with their stones.

A sweating Water made of Elder-berries.

TAKE of Elder-berries as many as you please, press out the juice thereof; to every gallon thereof, put a pint of Whitewine-vinegar, of the lees of White-wine a pint: let them stand in a wooden vessel, which thou must then set in some warm place near the fire side for the space of a week, then distil them in a hot Still, or Alembick.

The Furnace for a Balneum Mariæ, with the Alembicks and their Receivers.



- A, Shews the brass kettle full of water.
 B, The cover of the kettle perforated in two places, to give passage forth to the vessels.
 C, A pipe or Chimney added to the kettle, wherein the fire is contained to heat the water.
 D, The Alembick consisting of its body and head.
 E, The Receivers, wherein the distilled liquor runs.

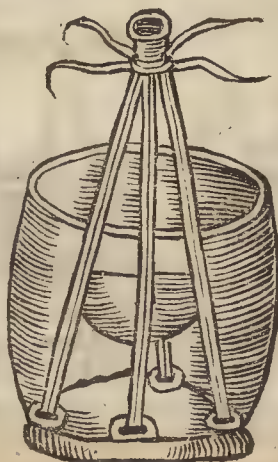
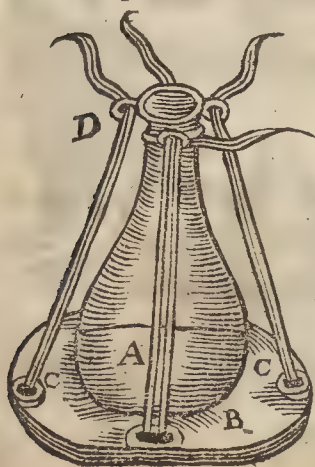
The effigies of another Balneum Mariæ, not so easie, to be removed as the former.



A, Shews the vessel or Copper that contains the water.

B, The Alembick set in water.

But lest the bottom of the Alembick being half full, should float up and down in the water, and so strike against the sides of the Kettle, I have thought good to shew you the way and means to prevent that danger.



A, Shews the Vessel or glass Alembick.

B, A plate of Lead whereon it stands.

C, Strings that bind the Alembick to the plate.

D, Rings through which the strings are put, to fasten the Alembick.

In defect of a Furnace for a Balneum, you may make use of a pot set upon a trefoot, after this manner.



An ounce or two of this water of Elder-berries is a very excellent Sudorifick, and is very good in all diseases that require sweat; as also in Hydropical diseases.

Water out of rotten Apples, is made thus.

TAke as many rotten Apples as you please, bruise them, and distil them either in a common cold-Still, or gourd glasses in *Balneo*.

This water is of greater use in feavers, and hot distempers, than the common distilled waters of any cold Vegetables.

It is very good in any hot distemper of the reins, and sharpness of Urine.

It is very good in the inflammations of the eyes.

The simple Water of Succory, is made thus.

TAke the hearb and roots of Succory, gathered about the middle of *May*, twelve pounds, pownd it or cut it small, to which pour twenty pounds of Common water, and then macerate it

E

three

three dayes; out of which you may distil eight pounds, in a hot Still.

Its vertues.

It is a very excellent water for the Liver, opening, diuretick, attenuating, and somewhat refrigerating.

The water of Fennel.

TAKE Fennel-seeds bruised small, four pounds, common water 24 pound; to which add, Tarrar or common Salt 2 ounces: macerate it in a cold place; then distil it in a copper Still, with its Refrigeratory: So have you both the Water and Oyl which must be separated from the water.

Its vertues.

Fennel-water is a good Restorative, its Diuretick, encreaseth Milk, it cleanseth the Breast from the abundance of evils proceeding from thick humours.

To make Cinnamon water.

TAKE Cinnamon grossly bruised one pound, to which pour Rose water and Whitewine, of each three pound, macerate the same in a fit place of warm dung or such like, as long as is necessary (or about 14 dayes, every day stirring it) then distil the same in *Balneo Mariae*. Separate the first water, which is the best; also, the second water, and then the third water, keep each apart; the second being fit to be used in the Menstruum for the Maceration; the third, is an unprofitable Flegm to be cast away.

Its vertues.

By its penetrating opening power, it removes all obstructions of the inward parts; it nourisheth the natural heat, and helpeth digestion; for which reason it is frequently used in the restoring of decayed Nature, in the renewing of the Spirits and strengthening of the Bowels. The Dose is a spoonful, either *per se*, or mixt with other things.

The

*The Acid water, of Oak, Juniper, Guajacum,
Box, &c. is made thus.*

TAKE the Sawdust of Oak, the Rasping of Juniper, Guajacum, or the small bits of Box, distill them in a Glass Retort in Sand until the matter be dry; afterwards separate the Oyl from the water, with filtering paper (the black oyl remaining in the paper) rectifie the water in Sand, either from Colcothar, or Sea-salt, or its own Ashes; afterwards separate the Flegm by Distillation (in *Balneo Mariae*) from the Acid Liquor, about a third part whereof, (that which cometh last over) is to be kept

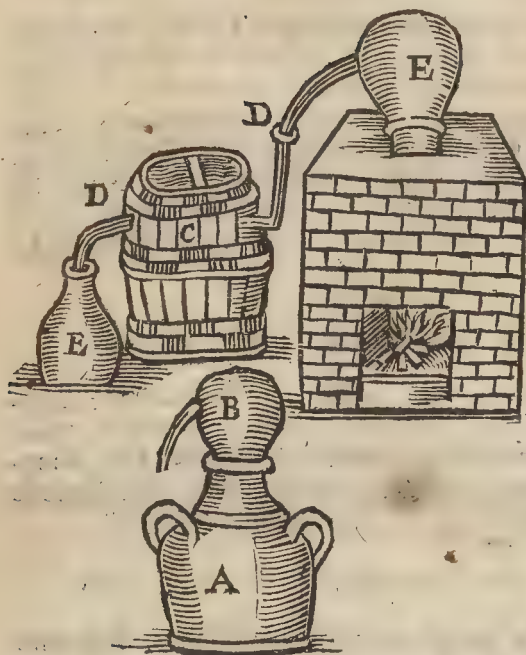
For these uses :

To dissolve Corals and Pearl, and to extract Tinctures : Especially, that of Guajacum, for that it evidently helpeth those that have need thereof, in Scabinesses, the French Pox, Ring-worm, and other putrifying diseases of the blood. The Dose is half a dram, or a dram.

How to make Aquavita, and spirit of wine out of Wine.

TAKE of what wine you please, put it into a Copper Still, two parts of three being empty, distil it with a worm, until no more spirit come off, than this Spirit will serve for the making of any Spirits out of Vegetables : but if thou wouldest have it stronger, distil it again, and half will remain behind as an insipid flegm : and if thou wouldest have it yet stronger, distil it again, for every Distillation will leave behind one moiety of flegm or thereabout ; So shalt thou have a most pure and strong Spirit of wine.

A hot Still.



A, Sheweth the bottome which ought to be of Copper.

B, The Head.

C, The barrel filled with cold water to refrigerate and condensate the water and oyl that run through the pipe or worm that is put through it.

D, A pipe of brass or pewter, or rather a worm of Tin running through the barrel.

E, The Alembick set in the furnace with the fire under it.

How to make Aqua vitæ out of Beer.

TAKE of stale strong beer, or rather, the grounds thereof, put it into a copper Still with a worm. distil it gently (or otherwise it will make the head of the Still fly up) and there will come forth a weak Spirit, which is called, low Wine : of which, when thou hast a good quantity, thou maist distil it again of it self, and there will come forth a good *Aqua vitæ*. And if thou distillest it two or three times more, thou shalt have as strong a Spirit as out of Wine ; and indeed, betwixt which, and the Spirit of Wine, thou shalt perceiue none or very little difference.

How

How to rectifie Spirit of Wine, or Aqua vitæ.

Distil it in *Balneo* until the last drop that comes off be hot, and full of Spirit.

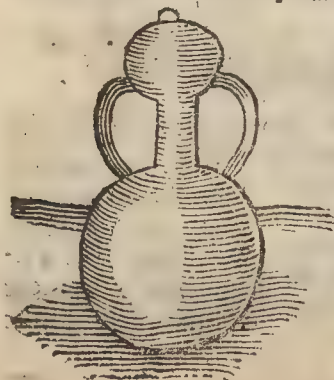
Note, that every time there will remain in the bottom a quantity as weak as water.

Note also, that every time thou distillest it, when thou perceivest that a very weak water comes over, thou shalt then end that Distillation.

To make the Magistery of Wine, which will be one of the greatest Cordials, and most odoriferous Liquor in the World.

Take good old rich Canary Wine, put it into a glass-vessel that it may fill the third part thereof, nip it up and set it in a continual heat of Horse-dung for the space of four months: then in frosty weather set it forth into the coldest place of the air you can, for the space of a month, that it may be congealed: And so the cold will drive in the true Spirit of the Wine into the Center thereof, and separate it perfectly from its flegm. That which is congealed, cast away; but that which is not congealed, esteem as the true Spirit of Wine. Circulate this in a Pellican, with a moderate heat, for the space of a month, and thou shalt have the true Magistery or Spirit of Wine, which, as it is most cordial, so also most Balsamical, exceeding all Balsoms for the cure of Wounds.

The form of a Pellican.



The matter must be put in at the top which afterwards must be closed up.

To make another Magistery of Wine, that a few drops thereof shall turn Water into perfect Wine

TAKE of the best Canary Wine, as much as you please, let it stand in putrefaction forty dayes, then distil it in *Balneo*, and there will come forth a Spirit, and, at last, an Oyl; separate the one from the other, and rectifie the Spirit. Set the Oyl again in putrefaction forty dayes, and then distil it. The feces that are left after the first Distillation, will yield a volatile Salt, which must be extracted without Calcination, with the flegm of the Spirit, purifie it well, then impregnate the Salt with its Spirit, and digest them; then add the Oyl, and digest them together till they become a red powder: which you may use as it is, or else set it in a cellar till it be dissolved into a liquor, and a few drops thereof will do as abovesaid.

To make an Oyl of Wine.

TAKE weak Spirit of Wine, distil it in a vessel of a long neck, then pour on this Spirit again upon the flegm, distil it again, do this several times, and you shall see the Oyl of the Wine swim on the flegm, which flegm you must separate from the Oyl by a tunnel.

If this Oyl be afterward circulated for a month, it will thereby become most odoriferous, and of singular vertue, and good being both very Cordial, and Balsamical.

To extract the Spirit out of Wine by the Spirit of Wine.

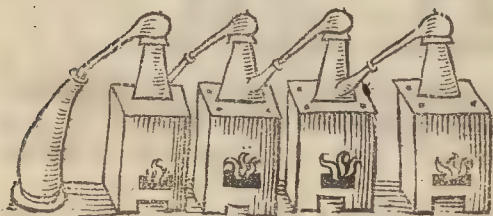
PUT Spirit of Wine well rectified upon Canary or Rhenish Wine, so cautiously that it may not mix with, but swim upon the Wine; let them stand without stirring, the space of 48 hours. Then will the Spirit, that is in the Wine, rise up, and join it self to the Spirit that swims on the top, which you shall perceive by the weakness of the flegm, which you must let run out at a tap, which must be made in the bottom of the vessel for that purpose, and so be separated from the Spirit.

To

To make a very subtil Spirit of Wine at the first distilling.

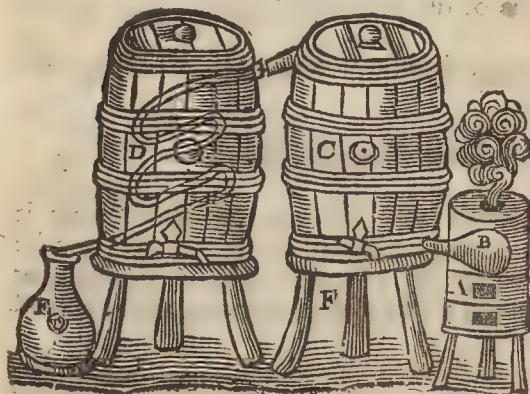
TAKE white or wheaten bread as soon as it comes forth of the Oven, break it in the middle (*i.e.*) the upper side from the lower side, and hang it hot in a Glass-vessel over Canary Wine, but so that it touch not the Wine; then cover the vessel, and let it so stand until the bread swell and be sufficiently impregnated with the Spirit of Wine, which it will attract from the Wine: then take out that bread and put in more, till you have a considerable quantity of bread thus moistened. Then put this bread into a Glass-body, and distil it in *Balneo*, and you shall have a very subtil Spirit, which you may yet rectifie by Circulation.

By Furnaces and Vessels made after this insuing figure, there may be made four rectifications of any Spirit at once.



*These vessels may either stand in ashes, or in *Balneo*.*

The manner of Distilling in Wooden Vessels.



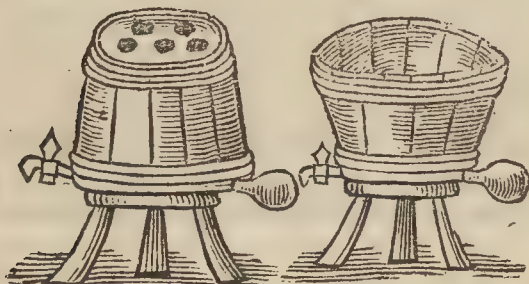
- A, Signifieth the vessel wherein the copper vessel lyeth.
- B, The copper vessel, part of which is in the Furnace, and part in the vessel of wood.
- C, The vessel of Wood, wherein the matter must be that is Distilled.
- D, The cooling vessel with the worm.
- E, The Receiver.
- F, The Tripod wherein the vessel standeth.

Notes

Note, that the greater the copper vessel is, and the less the wooden is, the sooner will the Liquor boil.

This Furnace shows how to draw forth Spirits and Waters out of Vegetables and Animals, with little cost and in short time.

A Balneum and a boiling Vessel made of Wood.



Note, that on the right hand, these vessels have a copper vessel hanging forth, which must be set into a Furnace, as is above shewed; and on the left hand is a Cock or Tap to let out the water.

The vessel on the left hand is for a *Balneum*, the holes in the cover thereof are either to set in vessels over the fume of the water, or for the necks of the glasses set in the *Balneo* to pass through.

The vessel on your right hand is to boil water in for any use, also to brew in.

The Spirit of any Vegetable is made thus.

TAKE of what Vegetable you please, two pound, macerate it in six Gallons of *Aqua vita*, or low Wines, or Sack, for the space of 24 hours; then let them be distilled by an Alembick, or hot Still, putting to every pound of the Spirit two ounces of most pure Sugar.

Note, that the two first pints may be called the Stronger Spirit, and the rest the weaker Spirit, or indeed the water, but if they be

be both mixed together, they will make an excellent midling Spirit, for the former hath more of the Spirit of Wine, and the latter more of the vertue and odour of the Vegetable.

After this manner may be made the Spirit of

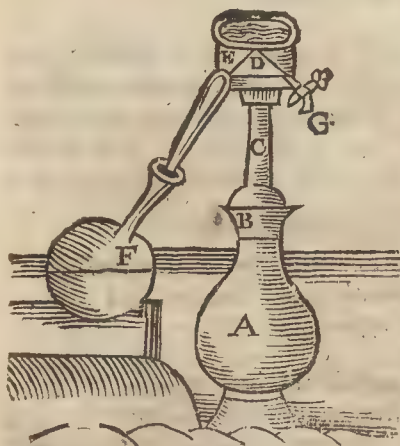
Hearbs,
Flowers,
the Roots } of Vegetables,
Seeds }
Berries,
Barks,
Rinds, and
Spices.

Note, that Hearbs and Flowers must be cut small, the rest bruised.

If you would make it stronger, then take all the foresaid Spirit, and as much more Sack or low Wines, and put them upon the same quantity of fresh Vegetables, and distil them; repeat this three or four times if thou pleasest.

Note also, that the Vegetable must be dried; because else the Spirit will not be so good, as if otherwise.

The Form of an Alembick.



A, Signifies the vessel which must be of Copper, in which the matter is contained, and which must be set over a naked fire.

B, Signifies the Belly that is fastened to the Neck, that the Neck may the more commodiously be applied to the large mouth of the vessel. But it may be so ordered that the mouth of the upper vessel and lower vessel may be so fitted that they shall not need this Belly.

C, The long Neck of the upper vessel, whereby the Spirit or Water passing is somewhat cooled.

D, The Head.

E, The vessel that compasseth the Head, into which cold water is continually poured after the heating.

F, The long Receiver.

G, The top or cock letting out the water when it is hot.

F

The

*The Spirit of any Vegetable may sodainly, at any time
of the year be made thus.*

Take of what Hearb, Flower, Seeds, or Roots you please. Fill the head of the Still therewith, then cover the mouth thereof with a coorse Canvas and set it on the Still, having first put into it, Sack or low Wines. Then give it fire.

If at any time thou wouldst have the Spirit be of the colour of its Vegetable, then put of the flowers thereof dried a good quantity in the nose of the Still.

To make any Vegetable yield its Spirit quickly.

Take of what Vegetables you please, whether it be the seed, flower, root, fruit, or leaves thereof, cut or bruise them small, then put them into warm water, put yest or barm to them, and cover them warm, and let them work three dayes as doth Beer, then distil them, and they will yield their Spirit easily.

*To reduce the whole Hearb into a Liquor which may well
be called the Essence thereof.*

Take the whole Hearb with flowers, and roots, make it very clean: then bruise it in a Stone Morter, put it into a large Glass vessel, so that two parts of three may be empty: then cover it exceeding close, and let it stand in putrefaction in a moderate heat, the space of half a year, and it will be all turned into a water.

*To make an Essence of any Hearb, which being put into a Glass,
and held over a gentle fire, the lively form and Idea
of the Hearb will appear in the Glass.*

Take the foregoing water, and distil it in a gourd-glass (the joynts being well closed) in ashes, and there will come forth a Water and an Oil, and in the upper part of the vessel will hang a volatile Salt. The Oyl separate from the Water, and keep by it self;

self; with the water purifie the volatile Salt by dissolving, filtering, and coagulating. The Salt being thus purified, imbibe with the said Oyl, until it will imbibe no more, digest them well together for a month in a vessel hermetically sealed. And by this means you shall have a most subtil essence, which being held over a gentle heat will fly up into the Glass, and represent the perfect Idea of that Vegetable whereof it is the essence.

The true essence, or rather Quintessence, of any Hearb, is made thus.

When thou hast made the Water and Oil of any Vegetable, first calcine (*i.e.*) burn to ashes the remainder of the Hearb; with the Ashes make a Lye by pouring its own water thereon; when thou hast drawn out all the strength of the Ashes, then take all the Lye, being first filtered; and vapour it away, and at the bottom thou shalt find a black Salt: which thou must take and put into a Crucible, and melt it in a strong fire (covering the Crucible all the time it is melting) after it is melted, let it boil half an hour or more, then take it out, and beat it small, and set it in a Celler on a Marble stone, or in a broad Glass, and it will all be resolved into a Liquor; this Liquor filter, and vapour away the humidity till it be very dry, and as white as snow. Then let this Salt imbibe as much of the Oil of the same Vegetable as it can, but no more, lest thou labour in vain. Then digest them together till the Oyl will not rise from the Salt, but both become a fixed powder melting with an easie heat.

To extract the Quintessence of all Vegetables.

Take of what Spices, Flowers, Seeds, Hearbs, Woods, you please, put them into a rectified Spirit of Wine; let the Spirit extract in digestion, till no more feces fall to the bottom, but all their essence is gone into the Spirit of Wine, upon which, being thus impregnated, pour a strong Spirit of Salt, and digest it in *Balneo* till an Oyl swim above, which separate with a Tunnel, or draw off the Spirit of Wine in *Balneo*; and the Oyl will remain clear at the bottom, but before the Spirit of Wine is abstracted, the Oyl is bloud red, and a true Quintessence.

An excellent Effence of any Vegetable, may be made thus.

Take of the distilled Oyl of any Vegetable, with it imbibe the best Manna, being very well depurated, untill it will imbibe no more, then digest them a month, and thou shalt have the true balsom and excellent Effence of any Vegetable.

This hath the vertues of the Vegetable, whereof it was made, but in a more eminent manner.

The depuration of Manna for this use is a great Secret.

Water or Spirit of Manna, is made thus :

Take of the best Manna one part, of Nitre two parts, put them into an Ox Bladder, and tying it close, put it into warm water to be dissolved. Distil this water in an Alembick, and there will come forth an insipid water, sudorifical and laxative.

The Tincture of dried Roses, is thus made.

Put one ounce of Red-Roses dried, in four pound of warm water, to which add two drams, or thereabouts, of Spirit of Vitriol, or Sulphur, and within three or four hours the water will be very red; which filter or decant, and dissolve therein twelve ounces of Sugar.

So have you a true cooler of the Liver, in Fevers and other unnatural heats, when it first seizeth them, its use is great; it is also a great comforter of the Liver, by reason of the Spirit of Vitriol; and of the Ventricle, because it bringeth a good digestion.

The Tincture of Violets.

Take the flowers of Violets bruised, macerate them in their own Water, or in the Oyl of Sugar (hereafter described) then press in, and strain it, until the Tincture be according to your desire. You may also add Spirit of Vitriol, as before in the Tincture of Roses.

Or,

Or, you may put flowers in the pipe of the Alembick, when you distil its own water, which will take a tincture with it.

Or, you may have a bellyed pipe, between the pipe of the Alembick and the Receiver, in which put your fresh Violet flowers; in the body of the Alembick put your bruised flowers to distil, which water passing through, the other flowers carryeth the tincture with it.

The Tincture of Saffron.

It is made with spirit of Wine, being powred thereon so often until it hath attracted the whole tincture, and that which is left remain whitish: Fil e the tincture, and abstract the Spirit of Wine, with a gentle heat in *Balneo Maria*.

Its use.

It hath various and excellent faculties, and wonderfully refresheth and restoreth the Spirits, especially in swooning fits, if one drop thereof be given in broth or white wine.

The Tincture of Rhubarb.

Take Moncks-Rhubarb cut in pieces, one ounce, pour thereon the Oyl of bitter Almonds, about three fingers high, or four ounces; set in the heat of the Sun a Philosophical month, or 40 dayes and so the Oyl takes the Essence of the Rubarb to its self; then press it, an : to that which is expressed, add spirit of Wine rectified, and leave it for some dayes in *Balneo Maria*, so the spirit of Wine doth attract unto it the whole Essence of the Rhubarb; then put the remaining Rhubarb again with more Oyl, to digest until it be tinged; and again extract the Tincture with spirit of Wine, which repete so often till the Rhubarb yield no more tincture: Then distil off half the tinged spirit of Wine, which return again and again distil off half, which work repeat four times, then at last distil off the whole. Then is the Tincture brought over, *per Alembicum* with the spirit of Wine. Afterwards you must separate it, and bring it to be like hony, or the form of a Balsum, in *Balneo Vaporoso*.

Its Dose is 10 or 12 drops in some Conserve or convenient Liquor.

The Tincture of Sugar.

Take white Sugar pulverised, one pound, put it in a glass-body with two spoonfuls of distilled Vinegar, digest it upon hot ashes for 6 hours; then pour thereon rectified *Aqua Vita*, that it be two fingers above it, digest it until it be tinged; then decant of the tinged Spirit, and pour on more, until it will extract no more tincture; then distil off the *Menstruum* in *Balneo Maria*, and the Tincture or Essence will remain red in the bottom, which ought to be circulated with Cordial Waters.

The Tincture of Salt of Tartar.

Take the purest Salt of Tartar, that hath been prepared by often Calcinations, Solutions, Coagulations, and Fusions, as much as you please, put it in a strong Crucible, and melt it so long upon coals, until it change from a greenish colour to a blew, and be so sharp, that a little quantity thereof laid on the tongue, burneth it like fire. Then put it into a Glass-body, and pour thereon, by little and little, so much Spirit of Wine, till it be three fingers high above the matter, set in the cold for an hour, then set it in a sand furnace, and let it gently boyl, until the spirit be well Tinged, which separate, and put on more, until all the Tincture be extracted: Afterwards distil off the spirit of Wine, and so will the tincture remain in the bottom red as blood, and of a most pleasant savour.

Its use.

The dose is from 5, 6, to 8 drops in White-wine, or opening broth, to provoke Urine, and expel the reliques of the French pox, and other inveterate diseases. Its very good also in any Hypochondriack distempers; it openeth all kind of Obstructions, and they that use it, it alwayes keeps their belly laxative and open.

The Chymical Oyl of the Hearb or Flower of any Vegetables is made thus.

Take of the hearb or flower dried, one pound, of Spring water twenty four pints, distil them in a great Alembick, with its cooler or copper Still with a worm passing through a vessel of cold water. Let the Oyl that is drawn with the Water be separated with a Tunnel or separating Glass, and let the Water that is separated be kept for a new distillation.

Note, that if this Water be used two or three times in the drawing of the Oil, it will be an excellent water of that Vegetable from which it is distilled, and as good as most that shall be drawn any other way.

After the same manner are made Oyls of the dry kinds of

Orenges,

Citrons,

Lemons.

But note, that these Rinds must be fresh, and (the inward whiteness being separated) be bruised.

The Oyl commonly called the Spirit of Roses.

Take of Damask, or red Roses, being fresh, as many as you please, infuse them in as much warm Water as is sufficient for the space of twenty four hours. Then strain and press them, and repeat the infusion several times with pressing, until the liquor become fully impregnated, which then must be distilled in an Alembick with a refrigeratory or Copper Still with a worm, let the Spirit which swims on the Water be separated, and the water kept for a new infusion.

This kind of Spirit may be made by bruising the Roses with Salt, or laying a lane of Roses and another of Salt, and so keeping them half a year or more, which then must be distilled in as much Common-water, or Rose-water as is sufficient.

Oyls are made out of seeds thus.

Take of what seeds you please, bruised, two pound; of spring-water, twenty pints; let them be macerated for the space of 24 hours, and then be distilled in a Copper Still with a worm, or Alembick with its refrigerating. The oyl extracted with the water, being separated with a tunnel, keep the water for a new Distillation.

This water after three or four distillations, is a very excellent water, and better then is drawn any way out of that Vegetable whereof these are seeds; I mean for vertue, though not alwayes for smell.

After the same manner are made Oyls out of Spices, and aromatical woods.

Oyls are made out of Berries thus.

Take of what Berries you please, being fresh, 25 pound, bruise them, and put them into a wooden vessel with 12 pints of spring-water, and a pound of the strongest leaven; let them be put in a celler (the vessel being close stopped) for the space of three months, then let them be distilled in an Alembick, or Copper Still with their refrigeratory, with as much spring water as is sufficient. After the separation of the Oyl, let the water be kept for a new Distillation. Note, that the water being used in two or three Distillations, is a very excellent water, and full of the vertue of the Berries.

Oyl is made out of any solid Wood thus.

Take of what Wood you please, made into gross powder, as much as you will, let it be put into a Retort, and distilled in sand. The Oyl which first distils, as being the thinner, and sweeter, must be kept a part; which with rectifying with much water yet maybe made more pleasant; the acid water or Spirit, which in distilling comes forth, being separated; which also (being rectified from the flegm with the heat of a *Balneum*) may be kept for use, being full of the vertue of the wood.

After

After the same manner are made the Oyl and Spirit of Tartar; but thus much note, that both are more pure and pleasant, being made out of the Cryſtals, than out of the crude Tartar.

To make a moſt excellent Oyl out of any Wood, or Gum,
in a ſhort time, without much coſt.

Take of what wood you pleaſe, or Gum, bruised ſmall, put it into a veſſel fit for it, then pour on ſo much of ſpirit of Salt as will cover your matter, then ſet it in Sand with an Alembick, make the ſpirit boyl, ſo all the Oyl flyeth over with a little phlegm; for, the ſpirit of Salt, by its ſharpneſs, freeth the Oyl, ſo that it flyeth over very eaſily.

The ſpirit of Salt being rectified may ſerve again.

To make Vegetables yield their Oyl eaſily.

Diſtil them, being firſt bruised, in ſalt water, for Salt freeth the Oyl from its body; Let them firſt be macerated three or four dayes in the ſaid water.

The ſpirit of Turpentine is made thus.

Take of cleer Turpentine, as much as you pleaſe, put it in a Copper-Still with its Refrigeratory, near full; ſo ſhall you diſtill a ſpirit which will ſwim on the water, which you may rectifie in *Balneo Mariæ*, and by often diſtillations, exalt it to the height of ſpirit of Wine.

Another more excellent way.

Take of ſimple Venice Turpentine, as much as you pleaſe, diſtill it *per ſe*, in a gentle *Balneo Vaporoso*, having very well enclosed all the Joynts, and that ſpirit will diſtil ſo very ſubtil, that it will vapour away in ones hand: Out of one pound of Turpentine you will ſcarce have half an ounce. The other part thereof keep for other uſes.

This Spirit is an excellent Remedy in the Gonorrhea, and is a
G notable

notable Diuretick ; it cleanseth, it ripeneth Imposthumes : it is Narcotick, and equalleth the vertues of the true Balsam.

Oyl or Spirit of Turpentine is made thus.

Take of Venice Turpentine, as much as you please, of Spring-water four times as much, let them be put into an Alembick, or copper-Still with its refrigeratory, then put fire under it : so there will distil a thin white Oyl like water, and in the bottom of the vessel will remain a hard gum called Colophonia, which is called boyled Turpentine : That white Oyl may be better and freer from the smell of the fire if it be drawn in *Balneo*, with a gourd, and glass head.

Common Oyl Olive may be distilled after this manner, and be made very pleasant, and sweet, also most unctuous things, as *Sperma Ceti*, Storax liquid, and also many Gums.

Another way to make the Oyl of Turpentine.

Take the matter that is left in the Distillation of the Spirit of Turpentine (so that the spirit be not drawn with too strong a fire): And distil it *per se*, in a glass Retort, in Ashes or Sand ; so shall you have first a yellow Oyl, called, *The true Oyl of Turpentine* ; then a thick and red Oyl, called, *The Balsam of Turpentine* ; Then there remains in the bottom of the Retort, the *Colophonia*, improperly so called, the former matter being properly *Colophonia*, this being so very black and dry. If you digest the Oyl in *Balneo Mariae*, it will take away its evil Savour.

Its virtues.

It healeth, it dissolveth, it openeth, cleanseth, and comforteth, and may be outwardly used in stead of a true Balsam ; it may also be used in all wounds incurable and stinking Ulcers, Boils, Fractures, Contractures, refrigerated members, Chilblains, &c. But it is not alwayes to be used *per se*, or alone ; but there is further required, that it be conveniently mixed with other things fit for the cure intended.

*Oyl of Gums, Resines, fat and oily things may
be drawn thus.*

Take of either of these which you please, being melted, a pound; mix it with three pound of the powder of tiles, or unslaked lime; put them into a Retort, and extract an Oyl, which with plenty of water may be rectified.

Note, that the water from whence the Oyl is separated, is of excellent vertue, according to the nature of the matter from whence it is drawn.

Oyl of Champhire is made thus.

Take of Camphire sliced thin, as much as you please, put it into a double quantity of *Aqua fortis*, or spirit of Wine, let the glass, having a narrow neck, be set by the fire, or on sand or ashes, the space of five or six hours, shaking the glass every half hour, and the Camphire will all be dissolved, and swim on the *Aqua fortis*, or spirit of Wine, like an Oyl.

Note, that if you separate it, it will all be hard again presently, but not otherwise.

*Another way to make Oyl of Camphire, that it shall not
be reduced again.*

Take of Camphire powdered, as much as you please, put it into a glasse like a Urinal, put upon it another urinal-glass inverted, the joynts being close shitten; sublime it in ashes, inverting those urinals so often till the Camphire be turned into an Oyl, then circulate it for the space of a month, and it will be so subtle, that it will all presently vapour away in the air, if the glass be open.

Another way to make Oyl of Camphire.

Take two ounces of Camphire, dissolve it in four ounces of pure Oyl Olive, then put them into four pints of fair water,

distil them all together in a glass gourd, either in ashes or *Balneo*, and there will distil both Water, and Oyl, which separate and keep by it self.

All these kinds of Oyl of Camphire are very good against putrefaction, fits of the Mother, passions of the heart, &c. A few drops thereof may be taken in any liquor, or the breast be anointed therewith: Also the fume thereof may be taken in at the mouth.

True Oyl of Sugar.

Take of the best white Sugar-candy, imbibe it with the best spirit of Wine ten times, after every time drying it again, then hang it in a white silken bag in a moist cellar, over a glass vessel, that it may dissolve, and drop into it. Evaporate the water in *Balneo*, and in the bottom will the Oyl remain.

This is very excellent in all distempers of the Lungs.

Oyl of Sage.

Take a great quantity of Sage, set it in the shade for two or three weeks, in a large Glass-vessel, close shut; then distil it in a Copper-Stil, with its Refrigeratory; and there have you the water, which you may rectifie: and also the yellow Oyl. It is good in all diseases of the Nerves, the Palse, Apoplexie, Convulsions, and such like.

Oyl of Amber is made thus.

Take of white Amber, one part, of the powder of flints calcined, or the powder of tiles, two parts; mingle them, and put them into a Retort, and distil them in Sand; The Oyl which is white and clear, which first distilled off, keep by it self, continuing the distillation as long as any Oyl distils off.

The salt of Amber, which adheres to the neck of the Retort within side, being gathered, let be purified by solution, filtration, and coagulation, according to art, and be kept for use.

After the distillation is ended, and all be cold, let there be a rectification and separation of the clear Oyl from the foetid Oyl, after this manner; Put the distilled Liquors into a glass-body, and distil it in *Balneo Mariae*; with a fire strong enough, and first the Plegm, or spiritual part, will distil over, and also the Golden Oyl swimming on that Liquor, which is then to be separated with a separating-glass, and kept for its use. But the stinking blackish Oyl remains in the body, take that and keep it by it self, as a Balsom of Amber.

Its vertues.

The yellow Oyl of Amber was once esteemed Sacred for its excellent Vertues, which either by it self, or compounded with other things, it is effectual in the Epilepsie, Apoplexie, Melancholy, Cramp, Vertigo, Pettilence, Stone, Cold defluxions in the head, Palpitation of the heart, for such that are troubled in Mind, in the Jaundies, difficulty of Breathing, difficulty of Urine, hard Travel, Strangulation of the Womb, retention of the Menstruums, the white Flux in Women, Worms and Fevers. The Dose is from two grains to four grains. But the Balsom of Amber is seldom used inwardly, unless it be one or two grains in the Suffocation of the Matrix: But externally its used to smell to, against the Suffocation of the Matrix; or else for Emplasters in closing of wounds, and stanching of blood: for the same purposes serves the yellow Oyl.

After the same manner may be made Oyls out of any Gums which may be powdered.

Oyl of Myrrhe is made thus.

Take of Myrrhe bruised, or Bay-salt, of each six pound, let them be dissolved in sixty pints of spring-water, and be distilled in an Alembick, or Copper-Still, according to Art.

Oyl of Myrrhe per deliquium, or by dissolution, is made thus.

Take Hen-eggs, boyled hard, and cut in the middle length-ways; take out the yelks, then fill up the hollow half way with powder of Myrrhe, and joyn the parts together again, binding them with a thread, and so set them upon a grate betwixt two platters, in a cold moist place, so the liquor of the Myrrhe dissolved will distil into the lower platter.

Oyl of Tartar per deliquium (i.) by dissolution.

Take of the best Tartar, calcined white, according to Art; put it into a cotten bag, hang it in the cellar or some moist place, putting under a Receiver.

Oyles by expression are made thus.

Take of what things you please, such as will afford an Oyl by expression, bruise them, then put them into a bag, and press them strongly, putting a vessel under to receive the Oyl.

Note, that they must stand in the press some hours, because the Oyl drops by little and little.

Note also, that if you warm them before you put them into the press, they will yield more Oyl, but then it will not keep good so long as otherwise.

After this manner are made Oyls of

Nutmegs,

Mace,

Almonds,

Linseed, and such like.

A vomiting, and purging Oyl made by expression.

Take of the Berries of Ebulus or Dwarf Elder, as many as you please, let them be dried but not over much, then bruise them, and in bruising them, moisten them with the best Spirit of Wine, until they begin to be Oily; then warm them
by

by the fire, and press forth the Oyl, and set it in the Sun to be purified.

Ten drops of this Oyl taken inwardly worketh upward and downward, and is very good against the Dropſie, and all wateriſh diſeaſes.

The belly being therewith anointed, is made thereby ſoluble.

Any part that is much pained with the Gout, or any ſuch grief, is preſently eaſed by being anointed with this Oyl.

Oyl of Jaſmine is made thus.

Take of flowers of Jaſmine, as many as you pleaſe, put them into as much ſweet mature Oyl, as you pleaſe; put them into a glaſs cloſe ſtopt, and ſet them into the Sun to be infused for the ſpace of twenty dayes, then take them out, and ſtrain the Oyl from the flowers: and if thou wouldeſt have the Oyl yet ſtronger, put in new flowers, and do as before.

This is a pleaſant perfume, and being mixt with Oyls and Ointments, gives them a grateful ſmell. It is alſo uſed in the perfuming of Leather.

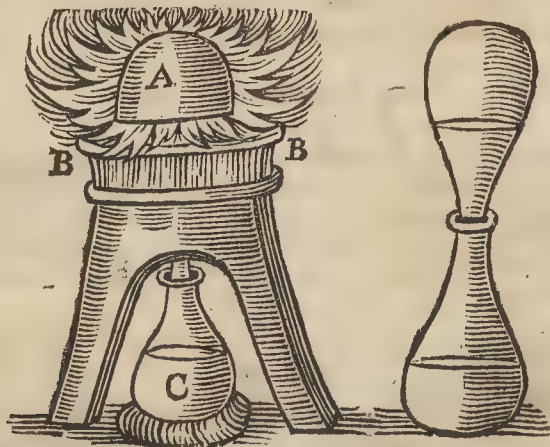
After this manner may be made Oyl of any flowers: but becauſe I ſhall keep my ſelf to the Art of Diſtillation only, I ſhall not ſo far digreſs as to ſpeak of theſe kinds of Oyls; only I thought good to ſet down the Oil of Jaſmine becauſe by reaſon of its fragrancy it hath ſome analogy with Chymical Oyls that are made by Diſtillation.

To make any Oyl, or Water, per deſcenſum.

Take an earthen gourd, fill it full with wood or hearbs, or what you pleaſe, being cut ſmall, then invert it (*i. e.*) turn it upſide down, and ſet it in the furnace, lute it well thereunto, then ſet another gourd of earth under it, with a wider mouth, that the uppermoſt may go into it, before you put the one into the other, you muſt have a little veſſel or inſtrument of Tin with brims round about on the top, by which it muſt hang into the lower gourd, the body thereof being 2 or 3 inches deep, and full of holes, that the Oil or Water may drop through, and
not.

not the Vegetable it self. Into this Instrument, being first set in- to the lower gourd, put the mouth of the upper gourd; then make thy fire on the top, and keep it burning as long as any liquor will drop.

The figure of this Furnace is thus.



- A, Signifies the Gourd containing the matter to be distilled.
 B, The Furnace containing the Coals, so that they surround the upper Gourd.
 C, The lower Gourd or Recipient set upon straw-rings.
 D, The vessel of Tin with holes, and brims which must be set in the Recipient.

How to make an Oyl and Water out of Soot.

This may be distilled *per descensum*, or by Retort, as thus, *viz.* Take of the best Soot (which shines like jeat;) fill with it a Glass Retort coated, or earthen Retort to the Neck, distil it with a strong fire, by degrees into a large Receiver, and there will come forth a yellowish Spirit with a black Oyl, which thou maist separate and digest.

How

How to rectifie Spirits.

You must set them in the sun in glasses well stopp'd, and half filled, being set in sand to the third part of their height, that the water waxing hot by the heat of the sun, may separate it self from the flegm mixed therewith, wch will be performed in twelve or fifteen dayes. There is another better way to do this, which is, to distil them again in *Balneo* with a gentle fire; or if you will, put them into a Retort furnished with its Receiver, and set them upon crystal or iron bowls, or in an iron mortar, directly opposite to the beams of the sun, as you may learn by these ensuing signs.

A Retort with its receiver standing upon Crystal bowls, just opposite to the Sun-beams.

Another Retort with its receiver standing in a Marble or Iron Mortar, directly opposite to the Sun.



*A, Shews the Retort.
B, The Receiver.
C, The Crystal Bowls.*

*A, Shews the Retort.
B, The Marble or Iron Mortar.
C, The Receiver.*

How to rectifie all stinking, thick black Oils that are made by Retort, and to take away their stink.

Take Oyl of Amber, or any such stinking Oyl, put it into a glass Retort, the fourth part only being full, pour on it drop by drop the spirit of Salt, (or any other acid Spirit) and they will boyl together; and when so much of the spirit is poured on, that it boyleth no more, then cease and distil it. First cometh over a stinking water, then a clear white, well smelling Oyl, and after that a yellow Oyl, which is indifferent good: but the spirit of Salt hath lost its sharpness: the volatile Salt of the Oyl remaineth coagulated with the spirit of Salt, and is black, and tasteth like salt Armoniack, and hath no smell being sublimed from it. Now the reason of all this is, because the volatile Salt of the Oyl, which is the cause of the stink thereof, is fixed by the acid spirit of the Salt: for acid Spirits, and volatile Salts, are contrary the one to the other, and spirit of Urine, or any volatile salt, will precipitate any metal as well as salt of Tartar.

These Oyls will remain clear, and have far more vertue, than the ordinary sort of Oyls have.

As for common ordinary distilled Oyls, they need not, if they be well separated from the Water with which they were distilled, any Rectifying at all; and if you go about to rectifie them, you will lose a good part of them, and make that which remains not at all the better. But if there be any better than another for rectifying of them, it is by digestion, by which means there will be a separation of what is flegmatick, which you may separate afterwards, and by this means you shall lose none of the Oyls.

Of compound Waters, Oyls, and Spirits.

B O O K II.

A dissolving Menstruum.

Take Cyprus Turpentine, and the best spirit of Wine, of each two pound; distil them in a Glass-gourd either in *Balneo* or Ashes. Separate the Oyl from the Spirit with a tunnel or separating glass, distil the Spirit again, and so often until it savour no more of the Oyl of Turpentine, and then it is sufficiently prepared.

This Menstruum dissolves any hard Stones presently, and extracts the tincture of Coral.

A Glass-Gourd with its Head.



Another dissolving Menstruum, or acetum Philosophicum.

Take Hony, Salt melted, of each a pound, of the strongest Spirit of Vinegar, two pound; digest them for the space of a fortnight, or more; then distil them in Ashes, cohobate the Liquor upon the feces three or four times, then rectifie the Spirit.

Note, that they must be done in a large Glass-gourd.

This is of the same vertue as the former, if not more powerful.

Another dissolving Menstruum.

Take of the best rectified spirit of Wine, with which imbibe the strongest unslaked Lime, until they be made into a past; then put them into a Glass-gourd, and distil off the spirit in Ashes: This Spirit, pour on more fresh Lime, and do as before; do this three or four times, and thou shalt have a very subtile Spirit able to dissolve most things, and to extract the vertue out of them.

Paracelsus his Elixir Subtilitatis.

Take Oyl Olive, Honey, rectified spirit of Wine, of each a pint, distil them all together in ashes, then separate all the flegm from the Oyls, which will be distinguished by many colours, put all these colours into a Pellican, and add to them the third part of the Essence of Balm, and Sallendine, digest them for the space of a month: Then keep it for use.

This Liquor is so subtile that it penetrateth every thing.

Usque-Bath, or Irish Aqua vite, is made thus.

Take a Gallon of small *Aqua vite*, put it into a Glass-vessel; put thereto a quart of Canary Sack, two pound of Raisins of the Sun stoned, but not washed, two ounces of Dates stoned, and the white skins thereof pulled out, two ounces of Cinamon grossely bruised, four good Nutmegs bruised, an ounce of the best English Licorish sliced, and bruised; stop the vessels very close,

close, and let them infuse in a cold place six or eight dayes, then let the Liquor run through a bag called *Manica Hippocratis* made of white Cotten.

This Liquor is commonly used in surfeits, being a good Stomach water.

Aqua Cœlestis, is made thus.

Take of Cinnamon	Rosemary
Cloves	Marjoram
Nutmegs	Mints
Ginger	Penny-royal
Zedoary	Stechados
Galangal	the flowers of Elder
Long-Pepper	Roses red
Citron-pill	white
Spicknard	of the leaves of Scabious
Lignum-aloes	Rue
Cububs	the lesser Moonwort
Cardamums	Egimony
Calamus aromaticus	Centory
Germander	Fumitary
Ground-pine	Pimpernel
Mace	Sow-thistle
White Frankincense	Eye-bright
Tormentil	Mayden-hair
Hermodactyls	Endive
the pith of Dwarf-elder	Red Saunders
Juniper berries	Aloes, of each two ounces;
Bay berries	Pure Amber
the seeds and flowers	the best Rhubarb, of each two
of Motherwort	Drams;
the seeds of Smallage	dried Figs
Fennel	Raisins of the Sun
Anise	Dates stoned
the leaves of Sorrel	Sweet Almonds
Sage	Grains of the Pine, of each an
Fel-wort	ounce.

Of the best *Aqua vita*, to the quantity of them all, of the best
 hard Sugar a pound, of white Honey half a pound, then add
 the root of Gentian the root of Briony
 flowers of Rosemary Sowbread
 Pepperwort, Wormwood, of each half an
 ounce.

Now before these are distilled, quench gold, being made red
 hot, oftentimes in the foresaid water; put therein oriental Pearls
 beaten small, an ounce; and then distil it, after twenty four hours
 infusion.

This is a very Cordial water, good against faintings and in-
 fection.

Aqua Imperialis, is made thus.

Take of the rind of Citrons dried

Oranges,

Nutmeg

Cloves

Cinnamon, of each two ounces;

the roots of Flower-de-luce

Cyprus

Calamus aromaticus

Zedoary

Galingal

Ginger, of each half a pound.

Of the tops of Lavender

Rosemary, of each two handful;

the leaves of the Bay-tree

Marjoram

Balm

Mints

Sage

Thyme

flower of Roses white

Damask, of each half an handful;

Rose-water four pints

the best White-wine a gallon.

Bruise

Bruise what must be bruised, then infuse them all twenty four hours, after which distil them.

This is of the same vertue as the former.

Agna Mirabilis, is made thus.

Take of Cloves	Nutmegs
Galingal	Ginger, of each a Dram;
Cububs	the juice of Salendine, half a pint,
Mace	Spirit of Wine a pint,
Cardamoms	White-Wine three pints.

Infuse all these twenty four hours, and then distil off two pints by an Alembick.

This water is very good against wind in the Stomach and Head.

Dr. Stephens Water is made thus.

Take a gallon of Gascoin wine	Sage
Ginger	Red Mints
Galingale	Red Roses
Cinnamon	Thyme
Nutmegs	Pellitory
Grains	Rosemary
Aniseeds	Wild Thyme
Fennel seeds	Camomil
Carroway seeds	Lavender, of each a hand- of each a dram. full.

Beat the Spices small, and bruise the Hearbs, letting them macerate twelve hours, stirring them now and then, distil them by an Alembick or Copper-Still with its refrigeratory, keep the first pint by it self, and the second by it self.

Note, that the first pint will be the hotter, but the second the stronger of the ingredients.

This Water is well known to comfort all the Principal parts.

A famous

A famous Surfet Water.

Take of red Poppy-cakes (after the Water hath been distilled from them in a cold Still) not over dried, two pound; pour upon them of the Water of red Poppy, a gallon and half; Canary-Wine three pints; add to them of Coriander-seeds bruised, four ounces, of Dill seed bruised two-ounces, of Cloves bruised half an ounce, of Nutmegs sliced an ounce, of Rosemary a handful, three Orenge cut in the middle, distil them in a hot Still; to the Water put the juice of six Orenge, and hang in it half an ounce of Nutmegs sliced, and as much Cinamon bruised, two drams of Cloves, a handful of Rosemary cut small, sweet Fennel-seeds bruised an ounce, of Raisins in the Sun stoned half a pound, being all put into a bag, which may be hanged in the Water (the vessel being close stoppt) the space of a month, and then be taken out, and cast away, the Liquor thereof being first pressed out into the foresaid Water.

This Water is of wonderful vertue in Surfets, and Plurisies, composeth the Spirits, causeth rest, helpeth digestion if two or three or four ounces thereof be drunk, and the patient compose himself to rest.

A Pectoral Water.

Distil green Hysop in a cold Still till you have a gallon and half of the Water, to this put four handful of dried Hysop, a handful of Rue, as much of Rosemary, and Horehound, Elecampany-root bruised, and of Horse-radish-root, bruised, of each four ounces, of Tobacco in the leaf three ounces, Annis-seed bruised two ounces, two quarts of Canary-wine, let them all stand in digestion two dayes, then distil them, and in the Water that is distilled put half a pound of Raisins of the sun stoned, of Licorish two ounces, sweet Fennel-seeds bruised two ounces and a half, Ginger sliced an ounce and a half, and let them be infused in *Frigido* the space of ten dayes, then take them out.

This Water sweetned with Sugar-candy and drunk to the quantity of three or four ounces twice in a day, is very good for

for those that are pitifical, it strengthneth the Lungs, attenuates thick flegm, opens obstructions, and is very good to comfort the stomach.

A very excellent Water against the Worms.

Take of Worm-seed bruised eight ounces, the shavings of Harts-horn two ounces, of Peach-flowers dryed an ounce, of Aloes bruised half an ounce, pour on these the water of Tanfie, Rue, Peach-flowers, and of Worm-wood of each a pint and half; let them, being put into a glass vessel, be digested the space of three dayes, then distill them; cohobate this Water three times.

This Water is very excellent against the Worms; it may be given from half an ounce to three ounces, according to the age of the patient.

A Water against the Convulsions.

Take of *Ros Vitrioli* (which is that water that is distilled from Vitriol in the calcining thereof) two quarts, in this put of Rue a handful, of Juniper-berries bruised an ounce, of Bay-berries bruised half an ounce, Piony-berries bruised six drams, Camphire two drams, Rhubarb sliced an ounce; digest these four dayes in a temperate *Balneo*, then distil them in a glass vessel in ashes, and there will come over a water of no small vertue.

It cures Convulsions, in children especially; it helps also the Vertigo, the Hysterical passion, and Epilepsie; it is very excellent against all offensive vapours, and wind that annoyes the head and stomach.

It may be taken from two drams to two ounces.

An Hydropical water.

Take of Worm wood, Broom-blossoms, of each a like quantity, bruise them, and mix with them some leaven, and let them stand in fermentation in a cold place, the space of a week,

week; then distil them in a Cold-Still, till they be very dry: Take a gallon of this water, and half a gallon of the Spirit of Urine, pour them upon two pound of dried Broom-blossoms, half a pound of Horse-radish-roots dried, three ounces of the best Rhubarb sliced, two ounces of sweet Fennel-seed bruised, and an ounce and half of Nutmegs: let them digest a week, being put into a glass vessel, in a temperate *Balneo*; then press the liquor hard from the feces, put this liquor in the said vessel again, and to it put three ounces of sweet Fennel-seeds bruised, Licorish sliced two ounces, digest them in a gentle heat the space of a week, then pour it off from the feces, and keep it close stoppt.

This water being drank from the quantity of an ounce to four ounces every morning, and at four of the clock in the afternoon, doth seldom fail in curing the Dropsie; it strengtheneth also the Liver, is very good against gravel in the back, stone, cures the Scurvy, Gour, and such diseases as proceed from the weakness, and obstructions of the Liver.

A water against the Colick.

Take of Aniseed three ounces

Cummin-seed three drams

Cinramon half an ounce

Mace

Cloves

Nutmeg, of each a dram,

Galangal three drams,

Calamus Aromaticus, dried, half an ounce,

The dried rind of Oranges, two ounces,

Bayberries, half an ounce.

Let all these, being bruised, be macerated in six pints of Malla-go-wine 48 hours, then be distilled in *Balneo*, till all be dry.

This Water being drank to the quantity of an ounce or two at a time, doth ease the gripings of the belly, and stomack, very much.

A Water against the Vertigo, and Convulsions.

Take of Black-cherries bruised with their kernels, a gallon, of the flowers of Lavander three handful, half an ounce of white Mustard-seed bruised, mix these together; then put some ferment to them, and let them stand close covered, the space of a week, then distil them in *Balneo* till all be dry.

This Water being drank to the quantity of an ounce or two or three, doth much relieve the weakness of the head, and helps the Vertigo thereof, as also strengthens the sinews, and expels windiness out of the head and stomach.

A compound Water of Burre-root causing sweat.

Take the root of the great Burre, fresh,

Swallow-wort, fresh,

the middle rind of the root of the Ash-tree, of each two pound; cut them small, and infuse them 24 hours in the best White-wine, and Rue vinegar, of each five pints, then distil them in *Balneo* till all be dry, put to the Water as much of the Spirit of Sulphur *Per Campanam*, as will give it a pleasant acidity, and to every pint of the water put a scruple and half of Camphire cut small, and tyed up in a bag, which may continually hang in the water.

This was a famous water in *Germany* against the Plague, pestilential and Epidemical diseases; it causeth sweat wonderfully, if two or three ounces thereof be drank, and the patient compose himself to sweat.

Another excellent Sudorifick and Plague Water.

Take of the best Spirit of Wine a gallon,

Andromachus Treacle, six ounces,

Myrrhe, two ounces,

The roots of Colts-foot, three ounces,

Sperma Ceti, of each half an ounce,

Terra sigillata, of each half an ounce,

The root of Swallow-wort, an ounce,
 Dittany
 Pimpernel
 Valerian-root, of each two drams
 Camphire, a dram

Mix all these together in a glass vessel, and let them stand close stopt the space of eight dayes in the Sun.

Let the Patient drink of this a spoonful or two, and compose himself to swear,

Dr. Burges his Plague water.

Take three pints of Muscadine, and boyl in it Sage and Rue, of each a handful, till a pint be wasted; then strain it, and set it over the fire again, put thereto a dram of long-Pepper, Ginger, and Nutmeg, of each half an ounce, being all bruised together: then boyl them a little, and put thereto half an ounce of Andromachus-treacle, and three drams of Mithridate, and a quarter of a pint of the best Angelica-water.

This Water (which, as saith the Author, must be kept as your life, and above all earthly treasure) must be taken to the quantity of a spoonful or two morning and evening, if you be already infected, and sweat thereupon: if you be not infected, a spoonful is sufficient, half in the morning and half at night; All the Plague-time, under God (saith the Author) trust to this, for there was never man, woman, or child, that failed of their expectation in taking of it: This is also of the same efficacy not only against the Plague, but Pox, Measles, Surfers, &c.

Crollius his Treacle water Camphorated.

Take of Andromachus Treacle, five ounces,
 The best Myrrhe, two ounces, and half,
 The best Saffron, half an ounce,
 Camphire, two drams:

Mix them together, then pour upon them ten ounces of the best spirit of Wine, and let them stand 24 hours in a warm place then distil them in *Balneo* with a gradual fire, cohobate the spirit three times. This

This spirit causeth sweat wonderfully, and resists all manner of infection.

It may be taken from a dram to an ounce in some appropriate Liquor.

A distilled Treacle Vinegar.

Take of the roots of Bistort

Gentian

Angelica

Tormentil

Pimpernel, of each ten drams,

Bay-berries

Juniper-berries, of each an ounce,

Nutmeg, five drams,

The shavings of Sassafras, two ounces,

Zedoary, half a dram,

White Sanders, three drams,

The leaves of Rue

Wormwood

Scordium, of each half a handful;

The flowers of Wall-flower

Bugloss, of each a handful and half,

Andromachus Treacle

Mithridate, of each six drams.

Infuse them all in three pints of the best White-wine vinegar, the space of eight dayes in *Frigido* in glass vessels; then distil them in *Balneo*.

This Spirit is very good to prevent them that are free, from infection, and those that are already infected, from the danger thereof, if two or three spoonful thereof be taken once in a day with swearing after, for those that are infected, but without sweating for others.

An excellent Water against the Stone in the Kidneys.

Take of the middle rind of the root of Ash bruised, 2 pound,
 Juniper-berries bruised, three pound,
 Venice turpentine that is very pure, two pound and
 half.

Put these into twelve pints of Spring-water in a glass vessel well closed, and there let them putrifie in horse-dung for the space of three moneths, then distill them in ashes, and there will come forth an Oyl and a Water; separate the one from the other.

Ten or twelve drops of this Oyl being taken every morning in four or six spoonfuls of the said water, dissolves the gravel and stone in the kidneys, most wonderfully.

Another Water for the same use.

Take the juyce of Raddish, Lemmons, of each a pound and half: Waters of Betony, Tansey, Saxifrage, and Vervin, of each a pint; Hydromel, and Malmesey, of each two pound: In these Liquors mixed together, infuse for the space of four or five dayes in a gentle *Balneo*, Juniper-berries, ripe and newly gathered, being bruised, three ounces, the seed of Gromel, Bur-dock, Radish, Saxifrage, Nettles, Onyons, Annise and Fennel, of each an ounce and half, the four cold seeds, the seed of great Mallows, of each three drams; the Calx of Eggs-shells, Cinnamon, of each three drams, of Camphire two drams; let all be well strained and distilled in ashes.

Two ounces of this Water taken every morning doth wonderfully cleanse the Kidnies, provoke Urine, and expel the stone, especially if you calcine the feces and extract the salt thereof with the said water.

To make an excellent Wound-water.

Take Plantain, Rib-wort, Bone-wort, wild Angelica, Red-mints, Betony, Egrimony, Sanicle, Blew-bottles, White-bottles,
 Scabius,

Scabinus, Dentelyon, Avens, Honey-suckle-leaves, Bramble-buds, Hawthorn-buds, and leaves; Mugwort, Daffie-roots, leaves, and flowers; Wormwood, Southernwood, of each one handful: Boyl all these in a pottle of White-wine, and as much Spring-water, till one half be waisted; and when it is thus boyled, strain it from the hearbs, and put to it half a pound of Honey, and let it boyl a little after; then put it into bottles, and keep it for your use.

Note, that these hearbs must be gathered in *May* only, but you may keep them dry, and make your water at any time.

This Water is very famous in many Counties, and it hath done such cures in curing outward and inward Wounds, Impostumes, and Uleers, that you would scarce believe it, if I should recite them to you: also it is very good to heal a sore mouth.

The Patient must take three or four spoonfuls thereof morning and evening, and in a short time he shall find ease, and indeed a cure, unless he be so far declined as nothing almost can recover him.

If the wound be outward it must be washed therewith, and finnen clothes wet in the same be applied thereto.

Dr. Mathias his Palsie water is made thus.

Take of Lavender flowers, a gallon; pour upon them of the best Spi. it of Wine, three gallons: the vessel being close stopped, let them be macerated together in the Sun for the space of six dayes, then distil them in an Alembick with its refrigeratory, then

Take the flowers of Sage

Rosemary

Betony, of each a handful;

Borage

Bugloss

Lilly of the vally

Cowslips, of each two handfuls.

Let all the flowers be fresh, and seasonably gathered, and macerated.

cerated in a gallon of the best Spirit of Wine, and mixed with
the aforesaid spirit of Lavender, adding then
the leaves of Balm

Motherwort

Orange tree, newly gathered

the flowers of Stechados

Oranges.

Bay-berries, of each an ounce.

After a convenient digestion, let them be distilled again, then
add the outward rinds of Citrons,

the seed of Piony husked, of each six drams

Cinnamon

Nutmegs

Mace

Cardamums

Cububs

Of Yellow-Sanders, of each half an ounce,

Lignum Aloes, one dram,

the best Jujubs, the kernels taken out, half a pound.

Let them be digested for the space of six weeks, then strain and
filter the Liquor, to which add of prepared Pearl two drams.

Prepared Emerald, a scruple,

Amber Gryse

Musk

Saffron

Red Roses

Sanders, of each an ounce,

Yellow Sanders

Rinds Citrons dried, of each a dram.

Let all these species be tyed in a silken bag, and hanged in the
aforesaid Spirit.

*A Scorbutical-water, or a Compound-water of Horse-
Radish, is made thus.*

Take the leaves of both sorts of Scurvy-grass, being made very
clean, of each six pound : let these be bruised, and the juyce pres-
sed forth, to which add the

Juyce

Juice of Brook-line,

Water-creffes, of each half a pound,
of the best White Wine eight pints,
twelve whole Lemmons cut,
of the fresh roots of Briony four pounds,
Horse-radish 2 pound,
of the bark of Winteran half a pound,
of Nutmegs four ounces.

Let them be macerated three days, and distilled.

Three or four spoonfuls of this water taken twice in a day,
cures the Scurvy presently.

Spirit of Castor is made thus.

Take of fresh Castoreum two ounces,

flowers of Lavender fresh half an ounce,

Sage,

Rosemary, of each two drams,

Cinnamon three drams,

Mace,

Cloves, of each a dram,

the best rectified Spirit of Wine three pints.

Let them be digested in a Glass, (two parts of three being empty) stopt close with a Bladder, and Cork, two days in warm ashes; then distil the Spirit in *Balneo*, and keep it in a glass close stopt. If you would make it stronger, take a pint of this Spirit, and an ounce of the powder of *Castoreum*, put them into a glass, and digest them in a cold place for the space of ten days, and then strain out the Spirit.

This Spirit is very good against fits of the Mother, passions of the heart which arise from vapours, &c.

Bezoar Water is made thus.

Take of the leaves of the greater Sallandine, together with the roots thereof, three handfuls and a half.

Of Rue two handfuls,

Scordium four handful,

Dittany of Crete,
 Carduus, of each a handful and a half.
 The Roots of Zedoary,
 Angelica, of each three drams.
 The outward rind of Citrons,
 Lemmons, of each six drams.
 The flower of Wall-gilly-flower, an ounce and half,
 Red-roses,
 The lesser Centory, of each two drams.
 Cinnamon,
 Cloves, of each three drams.
 Andromachus his Treacle three ounces,
 Mithridate an ounce and half,
 Camphire two scruples,
 Trochisces of Vipers two ounces,
 Mace two drams,
 Lignum-Aloes half an ounce,
 Yellow Sanders a dram and half,
 The seeds of Carduus an ounce,
 Citrons six drams.

Cut those things that are to be cut, and let them be macerated three days in the best Spirit of Wine, and Muscadine, of each three pints and half, Vinegar of Wall-gilly-flowers, and the juice of Lemmons, of each a pint; let them be distilled in a glazed vessel in *Balneo*.

After half the liquor is distilled off, let that which remains in the vessel be strained through a linnen cloth, and vapoured away to the thickness of Honey, which may be called

A Bezoard extract.

This Water is a great Cordial, and good against any Infection.

To make a Specificall Sudorifick.

Take of Ginger a pound, Long-pepper, and Black-pepper, of each half an ounce, of Cardamoms three drams, of Grains an ounce, powder them, and put them into a glass with half an ounce of the best Camphire, distilled Vinegar two pound, digest them a moneth; then separate the Vinegar by expression, which must

must putrefie a moneth, and then be circulated for the space of a week; then filter it, and thou hast as powerful a Sudorifick as ever was or can be made.

The dose is from a dram to half an ounce, and to be drank in a draught of Posset-drink,

Treacle-water is made thus.

Take of the juyce of the green shales of Walnuts four pound,
the juyce of Rue three pints,

Carduus,

Mary-gold,

Balm, of each 2. pints.

The root of Butter-burre fresh, a pound and half,

Burre,

Angelica.

Matter-wort fresh, of each half a pound,

The leaves of Scordium 4. handful,

Old Andromachus Treacle,

Mithridate, of each 8. ounces.

The best Canarie, 12. pints,

The sharpest Vinegar 6. pints.

The juyce of Lemmons 2. pints.

Digest them two days in Horse-dung, the vessel being close stopped; then distil them in sand.

Aqua Maria is made thus.

Take of Sugar candid one pound,

Canarie Wine 6. ounces,

Rose-water 4. ounces.

Make of these a syrup, and boyl it well, to which adde
of *Aqua-Imperialis* 2. pints,

Amber-griese,

Musk, of each 18. grains.

Saffron 15. grains,

Yellow-Sanders infused in *Aqua-Imperialis* 2.
drams,

The Mother-water commonly called Hysterical-Water, is made thus.

Take of the juyce of the root of Briony 4. pound.

leaves of Rue,

Mugwort, of each 2. pound,

Savin dryed 3. handful ;

Mother-wort,

Neppe,

Penny-royall, of each 2. handful ;

Garden-Basil,

Cretenfian-Dittany, of each a handful and half,

The Rind of yellow-Oranges, fresh, 4. ounces,

Myrrhe 2. ounces,

Castoreum an ounce,

The best Canarie Wine 12. pints.

Let them be digested four dayes in a fit vessel, then distil them
In *Balneo*.

A vomitting Water is made thus.

Take of the best Tobacco in leaves, cut small, 4. ounces, Squils
2. ounces, Nutmegs sliced half an ounce, put these into 3. pints
of Spring-water, a pinte of White-wine-vinegar, distil them in
a hot Still or Alembick.

If thou wouldest have it stronger, thou maist put this water on
fresh Ingredients and distil it again.

A little quantity of this water is a most safe, and effectual Vo-
mit, and may be taken from the eldest to the youngest, if so be
you proportion the quantity to the strength of the Patient.

You may dulcifie it with Sugar, or Syrup, if you please.

A Vomitting Water made by Platerus.

Take green Walnuts gathered about Midsummer, Radish-
root, of each bruised 2. parts, of distilled Wine-vinegar 4. parts
digest them 5. days, then distil them in *Balneo*.

This being taken to the quantity of 2. spoonfuls, or 3. causeth
easie vomitting.

A di-

A distilled Water that purgeth without any pain or griping.

Take of Scammony an ounce, Hermodactyls 2. ounces, the seeds of Broom, of lesser Spurge, of Dwarf-elder, of each half an ounce, the juyce of Dwarf-elder, of wild Apples, Cucumber, of black Hellebore, the fresh flower of Elder, of each an ounce and half, Polypodium 6. ounces, of Sene 3. ounces, Red-sugar 8. ounces, common distilled Water 6 pints.

Let all these be bruised, and infused in the water 24. hours, then be distilled in *Balneo*.

This Water may be given from 2 drams to 3. ounces, and it purgeth all manner of humors, opens all obstructions, and is pleasant to be taken, and they whose stomachs loath all other Physick, may take this without any offence.

After it is distilled there may be hanged a little bag of Spices in it, as also it may be sweetened with Sugar, or any opening Syrup.

A specifical Liquor against the Tooth-ach.

Take of Oil of Cloves well rectified half an ounce, in it dissolve half a dram of Camphire, add to them of the Spirit of Turpentine four times rectified, in which half a dram of Opium hath been infused, half an ounce.

A drop or two of this Liquor put into a hollow tooth with some Lint, easeth the Tooth-ach presently.

A Water of Wonderful Efficacy, not undeservedly called the Mother of Balsom.

Take Turpentine,

Lignum-Aloes,

Olibanum, of each five ounces;

Cinnamon,

Lilly-leaves, of each half an ounce;

Pepper-wort,

Balsom, of each two ounces.

Mix them well together, and distil them according to Art

in a gentle fire, and there will come a clear water, good in all diseases, wherein the Balsom is usually applied.

1. It takes away the Pimples in the face. 2. It takes away all blemishes in the eyes. 3. It comforteth a cold head, and helpeth the memorative faculty. 4. It retardeth gray-hairs. 5. It cleareth the Spirits. 6. It strengtheneth the digestive faculty. 7. It healeth the Nerves. 8. It preventeth the Palsie. 9. It expelleth all wind out of the body, and giveth a good savour to the whole body.

When you see no more white and yellow water, to ascend the Alembick, or Distil; then increase the fire a little, until it leave distilling. This water keep apart; for it is of infinite vertues, which I am not able to comprehend.

1. It purgeth the whole body, and preserveth it from putrefaction, like the true natural Balsom. 2. After a man is dead, it admitteth not of any corruption. 3. It cureth Leprosie. 4. It is good in the Epilepsie. 5. It is good in an old deafness. 6. It removeth Rheume. 7. It suffereth not gray-hairs. 8. It preserveth youth, &c.

When this water hath done distilling, then increase the fire, and there will distil a red water.

1. If you put one drop of this water in your hand, it will immediately penetrate it, whereby it sheweth its vertues in Contractions. 2. It is a very good remedy in the Falling-sickness, if the inward parts are also comforted with convenient medicines. 3. It preserveth the dead body for ever from corruption. 4. It taketh away forgetfulness, proceeding from any infirmity; and comforteth the Memory. 5. It cureth the Crook-back, if it be rightly applied

An excellent Sanative Oyl for Wounds and Bursten-bellies.

Take the flowers of Rosemary,

Borage,

Bugloss.

Camomile,

Violets,

Roses, of each a handful.

Stacados, or Cotten-weed, half a handful,
 Bay-leaves,
 Marjoram,
 Sage, of each half a handful.

Let them be cut very small, and let them stand two days with the best Wine, then distil it. In this distilled Liquor put

Turpentine half a pound,
 of the best Frankincense,
 Mastick,
 Bdellium,
 Anacardium, of each 2. drams.

Beat them together, and macerate them in the said water for two days, then distil them together, and add to it

Nutmegs,
 Gilly-flowers,
 Cubebs,
 Mace,
 Ginger,
 Cardamoms, of each 2 Scruples.
 Lignum Aloes, half a dram.
 Amber,
 Musk, of each half a scruple.

Powder them all, and digest them in the aforesaid water in heat for two days, then distil them; and at last encrease the fire, and you will have a most excellent Oyl, which you may use with very prosperous success.

A notable Water against the Falling-Sickness.

Take Juniper-berries six ounces,

Zedoary,
 Gallinal, of each six drams.
 Saffron 2. drams.
 Lavender,

Sage, of each one handful.

Powder of Gems,

Diacastoreum, of each a dram and an half.

Digest them for a moneth in a Glass with Wine, three times

rectified in the Sun, then distil it in an Alembick, the dose is evening and morning half an Egg-shell full.

A most Excellent Water, reviving the natural and lively colour, and preserving the health of Man.

Take Cinamon

Gilly-flowers

Ginger

Saffron

Cubebs

Grains of Paradise, of each two drams,

The Powder of *Dia-margaritum*

of Gems

of Pearls, of each one dram;

the shells of Grains

Zedoary

Galingal, of each a dram and a half;

Lavender

Bay-berries

Bay-leaves

Musk

Amber, of each half a dram.

Powder them, and add Rose-water 2 pounds, *Aqua-vita* rectified 4 pounds, put them in a Glass vessel well closed, and digest them in the Sun, or other convenient heat 14. days, then distil it. Drink this water every morning, and wash your face with it.

A very excellent Anti-Epileptick Water.

Take Venice Turpentine 18. ounces.

Mile-Frankincense 2 ounces;

Lignum-Paradise 6. drams

choise Matlick

Rosemary-flowers

Nutmeggs

Galingal

Oil of each of each one dram and a half,

Oriental Saffron five drams

Fennel

Fennel-seeds,
Bay-berries, of each one ounce,
the best spirit of Wine eight pounds.

Let them stand together four days, and then be distilled *per Alembicum*.

How effectual this Water is in these following diseases, let them testifie, that for these many years have made experience thereof, to their great benefit, *viz.*

For those that are out of their mind, and in all diseases of the head; as the Epilepsie

Apoplexy

Palsie

Vertigo

Trembling

Lethargy, and such others, as well inwardly as outwardly administred.

A Water effectual in any diseases in the Joynts, arising from cold Rheumes, or any other causes.

Take Hungarian Vitriol 2. pounds,

White Tartar one ounce and a half,

Mummy

Mastick

Frankincense

Myrrhe, of each 2. ounces,

Ammoniack

Bdellium

Opopanax, of each one ounce and a half,

Hony 2. pound,

rectified spirit of Wine 6. pound.

Distil it in *Balneo Maria*, and cohobate it five times.

Its use is, heat it a little in a silver Spoon, and anoynt the place grieved with old linnen rags dipped in it.

The Oyl of the Philosophers, not common.

Take pure fine Wax 12. ounces,

L

Venice

Venice-Turpentine 18. ounces,
 Benjamin 2. drams,
 rectified Spirit of Wine 30. ounces,
 Common Ashes 6. ounces.

Mix them, and distil them in a Retort according to Art, and there will first come the Phlegm, then the Water, and lastly, the Oyl; which you shall separate every one apart, and so keep them for these uses:

The Phlegm being applyed to painful Ulcers, immediately mitigateth the pain.

The Water is good against the Pestilence, and also the Pin and Web in the Eye.

But the Oyl is of infinite verrues.

1. If any one be wounded, let him anoint the wound with this Oyl, and take every morning and evening three drops in warm Wine, and he shall be cured without any other medicine.

2. If any one be troubled with the Strangury, or obstruction of the Urin, let him take three or four drops.

3. It is good against the pain of the side, or Pleurisie.

4. It killeth Worms.

5. It removeth the Cough and Rheums.

6. It is a remedy not to be neglected in Fevers.

7. It comforteth all the weaker parts.

8. It cureth those sick of the Pestilence, even to a Miracle.

Oleum Benedictum.

Take the whites of Eggs boyled 12. ounces,

Venice-Turpentine 14. ounces,

Myrrhe 3. ounces,

Camphire 2. ounces.

Mix them, and distil them in a Glass Retort with a gentle fire, encreasing the fire by degrees, and the Oyl will distil.

1. This Oyl wonderfully cureth the wounds of the head, consolidateth it, and taketh away the pains, and preserveth it from subsequent symptoms.

2. In other perishing and tormenting wounds, inject two or three

three drops, and it immediately mitigateth the pains, and will cure the wound,

An Artificial Balsom,

Take Turpentine 2. pound,
Oyl of Bays 4. ounces,
Galbanum 3. ounces,
Gum-Arabick 4. ounces,
Olibanum
Myrrhe
Gum-Hedera, of each 3. ounces;
Lignum-Aloes
Galingal
Gilly-flowers
the Greater and Lesser-Comfrey
Cinnamon
Nutmegs
Centaury
Ginger
White-Dittany, of each 1. ounce;
Musk
Ambergreife, of each 2 drams,
of Rectified Spirit of Wine 6. pound.

Distil them by Retort, and there will come a white water with a yellow Oyl, as soon as it inclineth to a blackness, increase the fire until no more proceed.

1. This water is good for the Sight, and preserveth the Members.

2. It breaketh the Stone, and provoketh Urine.

3. It cureth all wounds, if they are washed therewith, and Tow moistned with it applyed.

4. It is good in the Sciatica and Gout.

5. It taketh away the Cough, and stoppeth Rheumes.

6. It easeth all pains in an instant.

The Oyl is effectual against

1. Baldness.
2. Poysonous corroding Ulcers.
3. The Leprosie.
4. It preserveth the Brain and Stomach.
5. It plainly resolveth all Tumors.
6. It cureth Quartane-Agues.

A Compounded Oyl against the Megrim.

Take Rue one handful, boyl it in a pound of Oyl of Olives, in a new pot for half an hour, then put it in a Retort, to which add Venice-Turpentine 12. ounces; Colophonias 4. ounces: Distil them in Sand, separate the first water that comes, being of no worth; then increase the fire by degrees, and the Oyl will distil, which keep by it self: which you must use at the time of the Fit, warm a little of it at the fire, and with Cotton moistned in it, anoint the Fore-head and Temples; and the parts grieved, when the Patient is lying down.

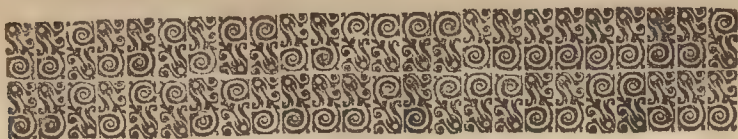
A Compound Oyl for the Suffocation of the Matrix.

Take Powder of Rue, a little dryed, one pound,
Castoreum 2. ounces,
Olibanum
Myrrhe, of each 4 ounces,
Linseed Oyl one pound and a half.

Let them be digested 4. days, in *Ventre Equino*, or such like heat; afterwards distil it by a Retort in a close Reverberatory.

With this Liquor anoint the Navil morning and evening.

of



Of MINERALS.

BOOK III.

Spirit of Salt is made thus.



TAke of the best Bay-salt as much as you please, let it be dissolved in Spring-water, and filtered, mix with this Brine in a Copper-vessel, of the powder of Bricks or Tiles, twice or thrice as much as the Salt, before its dissolution, was in weight; let the water vapour away over the fire (continually stirring of it) until it be dry; Then put this Powder into a Glass Retort well luted, or an Earthen Retort, and put into a Furnace (a large Receiver joyned to it according to Art) then give fire to it by degrees, until it will bear an open fire, for the space of 12. hours. Thou shalt have a very acid Oyl or Spirit in the Receiver: That Liquor being put into a Retort in Sand, may be rectified by the vapouring away of the flegm; then keep it for use in a Glass very well stoppt, that no air go in.

Spirit of Salt is very good in Feavers putrid, as in Hydro-pical.

A Retort and it's Receiver before they be set on work.



A Retort with its Receiver set on work.



Oyl, or Spirit of Salt, may also be made after this manner.

Take one part of Salt, and three parts of powder of Bricks or Tiles, and mix them together, and put them into a Retort, either of Glass, or Earth, to which put fire as before.

After this manner you may make Oyl, or Spirit of

Nitre
Salt Gem
Alum.

Note

Note, that these Salts must first be calcined, which is done by exhaling their flegm.

How to make a White acid, and a red volatile Spirit, out of Salt-Nitre.

Take two parts of Allome, and one of Salt-Nitre; make them both into powder, mix them well together, and cast into the Still a little and a little thereof, as above in the making of other spirits hath been taught; and there cometh over an acid spirit, together with the volatile spirit; and so many pounds as there is of the materials, which are to be cast in, so many pounds of water must be put into the Receiver; to the end that the volatile spirits may so much the better be caught and saved. And when the distillation is performed, the two spirits may be separated by the means of a gentle rectification made in *Balneo*; and you must take good heed, that you get the volatile spirit pure, by changing the Receiver in a good time, so that no flegm be mixed with the red spirit, whereby it will be weakened and turn white. The mark whereby you may perceive, whether the spirit for the flegm doth go forth, is this: when the volatile spirit goeth, then the Receiver looketh of a deep red: and afterward when the flegm doth come, the Receiver looks white again: and lastly, when the heavy acide spirit goeth, then the Receiver to be red again, but not so as it was, when the first volatile spirit came over.

Of the use of the red volatile Spirit.

This Volatile Spirit (which being quite freed from flegm remaineth alwayes red, and doth look like bloud,) in all occasions may be accounted like in vertue unto the former sulphureous spirits; especially in extinguishing of inflammations and Gangrenes, it is a great treasure, the clothes being dipt in it, and laid upon the grieved place: Also it goeth almost beyond all other medicines in the Erysipelaes and Colick: and if there be any congealed bloud in the body (which came by a fall or blow) this spirit outwardly applyed with such waters as are proper

proper for the grief, and also taken inwardly, doth dissolve and expel it: and being mingled with the volatile spirit of Urine it doth yield a wonderful kind of Salt, as hereafter shall be taught,

The use of the white acid Spirit of Salt-Nitre.

The heavy and corrosive Spirits of Salt-Nitre is not much used in Physick, though it be found almost in all Apothecaries shops, and there is kept for such use, as above hath been mentioned in the spirit of Vitriol; viz. to make their conserves and cooling-drinks tast fowtish. Also it is used by some in the Colick; but it is too great a corrosive, and too gross to be used for that purpose; and although its corrosiveness may be mitigated in some measure, by adding of water thereto, yet in goodness and vertue it is not comparable at all to the volatile spirit, but is as far different from it, as black from white, and therefore the other is fittest to be used in Physick; but this in dealing with metals and minerals, for to reduce them into vitriols, calxes, flores, and crocus.

To turn Salt-peter into a water by a meer digestion.

Take of Salt-peter powdered very small, with it fill the fourth part of a Bolt-head, close it well, and let it stand in the heat of ashes, or sand, the space of six weeks, and you shall see good part of it turned into water: continue it in the said heat, till it be all dissolved.

This is of incomparable use in Feavers, and against Worms, or any putrefaction in the body, and indeed, a most rare secret.

Spirit of Salt-Armoniack.

Dissolve Salt-Armoniack in distilled Spirit of Urine over a moderate heat; in this Spirit let Bricks beaten into small pieces, and made red-hot be quenched, till they have imbibed all the water, then make distillation in a Retort in sand, or in a naked fire.

This Spirit is of greater strength then that of other Salts.

Another

Another way,

Take of Salt-Armoniack one part, of *Lapis Calaminaris* two parts, beat them small and mix them well together; and distill them in a Glass Retort in Sand; first with a very gentle fire, and the flegm will come over, which (if you will have your Spirit very strong) you may take away: Then increase the fire by degrees; and you have the true Spirit of Salt Armoniack, very powerful and effectual in many operations.

Oyl or Spirit of Vitriol made thus.

Take of Hungarian, or the best English Vitriol, as much as you please, let it be melted in an earthen vessel glazed, with a soft fire, that all the moisture may exhale, continually stirring of it, until it be brought into a yellow powder, which must be put into a Glass Retort well luted, or an earthen Retort that will endure the fire: Fit a large Receiver to the Retort, and close the joynts well together; then give it fire by degrees, till the second day; then make the strongest heat you can, till the Receiver (which before was dark with fumes) be clear again; let the liquor that is distilled off be put into a little Retort, and the flegm be drawn off in sand; so will the Oyl be rectified, which is most strong, and ponderous, and must be kept by it self.

Many call that flegm, which is drawn off in rectifying the Spirit of Vitriol.

This Oyl (or Spirit) is very excellent in putrid Feavers, resisting putrefaction; also it opens all obstructions, and is very diuretical.

A red and heavy Oyl of Vitriol.

Take of calcined Vitriol one part, Plints grossely powdered 2. parts; of these with Spirit of Wine make a Paste, distil it in a Retort, and there will come forth a red heavy Oyl.

This is to be used rather about metals then in the body, only, if the scurfe on the head be anointed therewith two or three times in a week, it will fall off, and the head be cured.

To dulcifie the Spirit of Vitriol, and of Salt.

Take the Spirit of Vitriol, or of Salt, the best Spirit of Wine, of each half a pound; distil them in a Retort together, three or four times, and they will be united inseparably, and become sweet.

Some put 8. ounces of the best Sugar-candy to these Spirits before they be thus distilled.

Ten or twenty drops of this compound Spirit (being taken in any appropriated Liquor) is very good in any putrid or Epidemical disease.

*Gilla Theophrasti, or a most delicate vomitting Liquor
made of Vitriol.*

Take of Crystals made out of Copper, or Iron, dissolve them in the acid flegm that first comes forth in the distilling off common Vitriol circulate them 8. days.

This Liquor must be taken in Wine, and it causes vomiting instantly, and is most excellent to cleanse and strengthen the stomachs, and to cure all such distempers that arise from thence, as Salt-defluxions, Feavers, Worms, Head-ach, and Vertigoes, the Hysterical passion, and such like.

The dose is from a scruple to two scruples.

Oyl of Sulphur per Campanam.

Take a large Iron Vessel like a Platter, over it hang a Glass-bell, that hath a nose like the head of a cold Still; fill the lower vessel, being narrower then the compass of the Bell, or Head, with Brimstone, or Sulphur, inflame it; so will the fume which riseth from thence be condensed in the Bell into a liquor which will drop down through the Nose into the Receiver.

Note, that the Bell must hang at such a distance from the other vessel, that the flame of the Sulphur touch it not, according to this following example.



If (in stead of this broad vessel) you take a large Crucible and melt it in Salt-Peter, and cast Sulphur upon it thus melted, you shall make a great deal quicker dispatch.

This Spirit is of the same nature, and hath the same operations as Oyl of Vitriol.

There is lately discovered by an Ingenious *Italian* Chimist, living in *Fan-church-street*, a better way of drawing this Oyl of Sulphur, which is by a Campana, or Bell, which hath a Pipe perpendicular and open at the top for the Flowers of the Sulphur to fly away, which hinder the condensation of the Spirit. By which means a far greater quantity of Spirit may be drawn in a less time than the other; and so consequently much more effectual in the cure of diseases.

Of the Spirit or acid Oyl of Sulphur according to Glauberus.

To reduce Sulphur into a sower Spirit or Oyl, hath been sought hitherto by many, but found by few. Most of them made it

in Glass-bels; but got very little that way; for the Glasses being quickly hot, could not hold the Oyl, so that it went away in a smoak. Some thought to get it by distilling, others by dissolving, but none of all these would do the feat: Which is the reason why now adayes it is found almost no where right: In the Druggsters and Apothecaries shops, they usually sell Oyl of Vitriol instead of it, which by far is not to be compared in vertue to the Oyl of Sulphur: For this is not only of a far pleasanter sower taste, but (in efficacy also much) exceeds the other. And therefore being of so great use both in Physick and Alchymie; as in all hot diseases, mingling the Patients drink therewith, till it get a pleasant sower taste, for to quench the intolerable drowth, to strengthen the Stomach, to refresh the Lungs and the Liver: Also externally for to cure the Gangrene: Also for to crySTALLISE some Metals thereby, and to reduce them into pleasant Vitriols, useful as well in Alchymie as Physick; I thought good to set down the preparation, though it be not done in this our distilling Furnace, but in another way by kindling and burning it as followeth.

Make a little Furnace with a grate, above which a strong Crucible must be fastned, resting on two Iron-bars; and it is to be ordered so, that the smoak be conveighed (not above by the Crucible, but) through a Pipe at the side of the Furnace: the Crucible must be filled with Sulphur even to the top; and by a cole-fire without flame be brought to burn, and kept burning. Over the burning Sulphur, a vessel is to be applyed of good stony earth, like unto a flat dish with a high-brim; wherein is always cold water to be kept, and whereunto the burning Sulphur doth flame: Which thus burning its fatness consumeth, and the acid Salt is freed and sublimed to the cold vessel; where it is dissolved by the air, and (in the form of a sharp Oyl) runs from the hollow vessel into the Receiver; which must be taken off sometime, and more Sulphur supplied in stead of that which hath been consumed, to the end that the Sulphur may still burn in the crucible, and beat with the flame to the cold head; and within few days you will get a great quantity of Oyl, which else by the (*campana*) Glass-bell) in many weeks could not be done.

N. B. Such a fowr Spirit (or Oyl) may also be got by distillation, together with the flores, viz. thus : If you take pieces of Sulphur, as big as Hens-eggs, and carry them (one after another) into the hot distilling vessel, a fowr Oyl together with flores will come over into the Receiver, which must with water be separated out of the flores and the water abstracted from it again, in a Cucurbit ; and in the bottom of your Glass-body you will find the Oyl, which in vertue and taste is equal to the former, but you get nothing neer so much in quantity by this way ; and if you do not look for the Oyl, you may leave it with the Flores, which by reason of their pleasant acid taste are much toothsome to take then the ordinary ones.

The Oyl of Sulphur is made after a more Philosophical manner thus.

Take of crude Sulphur as much as you please, put it into a melting vessel, to be dissolved over the fire : being dissolved, pour it forth into seething hot water (this do ten or more times, remembring that the water must be alwayes seething hot) and thou shalt see that the Sulphur will be like Butter, then put it into a Retort, pouring on it the best Spirit of Wine ; then distill it with a soft fire, and there will come forth an Oyl of a golden colour, of a good taste and smell, which is the true Balsome of Sulphur. The Oyl that swims on the Spirit must be separated.

This Oyl for the cure of all distempers of the Lungs, for all Feavers, whether putrid or pestilential, and the cure of Wounds and Ulcers, is scarce to be equalled.

The Essence of Sulphur.

Take of Sulphur-vivum as much as you please, dissolve it as well as you can in *Aqua-fortis*, (made of Vitriol, and Salt-peter,) then evaporate the *Aqua-fortis*, and then reverberate the matter, till it become very red; Extract the Tincture with Spirit of Wine, then digest them till the essence be separated from the Spirit like an Oyl, and sink to the bottom.

This Essence also is of wonderful vertue against all putrefaction both inward, and outward, a great preservative against the plague, and is wonderful balsamical, and cureth all sores both old and new, even to admiration.

The Oyl of Arsenick is made thus.

Take of Crystalline Arsenick (being first sublimed with *Colcothar* alone) as much as you please, mix it with an equal weight of the Salt of Tartar, and Salt-peter; and let them be betwixt two little pots or crucibles (whereof the upper hath a hole) calcined, until no fume ascend. The matter being thus calcined, dissolve in warm water, that you may draw a Salt from thence; the powder which falls to the bottom imbibe with the liquor of Tartar, and dry it by the fire, and this thou must do three times; then dissolve the matter in warm water, that thou maist draw out the Salt thereof, and there will remain a most white powder, and fixed, which in a moist place, will be dissolved into a liquid matter like Oyl, or Butter,

Of the Nitrous Spirit of Arsenick.

If you take white-Arsenick and pure Salt-Nitre of each a like quantity, ground into fine powder, and distil them, you will get a blew Spirit, which is very strong; but no water must be put into the Receiver, else it would turn white; for Arsenick, from which the blew cometh, is precipitated by the water. This Spirit dissolveth and graduateth the Copper as white as Silver, and maketh it malleable, but not fix. The remaining *Caput mortuum* maketh the Copper white, if it be cemented therewith, but very brittle and unmalleable; but how to get good Silver out of Arsenick, and with profit, you shall find in the fourth part. In Physick the blew Spirit serveth for all corroding cancrus sores, which if they be annoyned therewith, will be killed thereby, and made fit for healing.

To make a Spirit of Sulphur, Crude-Tartar and Salt-Nitre.

If you grinde together one part of Sulphur, two parts of Crude-Tartar, and four parts of Salt-Nitre, and distil it Philosopher-like, you will get a most admirable Spirit, which can play his part both in Physick and Alchymie. I will not advise any body to distil it in a Retort; for this mixture, if it groweth warm from beneath, it fulminateth like Gunpowder; but if it be kindled from above, it doth not fulminate, but only burneth away like a quick fire: metals may be melted and reduced thereby.

To make Spirits and Flores of Nitre and Coals.

If you distil Nitre (well purified from its superfluous Salt) mixed with good Coals, the Egyptian-Sun-bird doth burn away, and out of it doth sweat a singular water, useful for men and metals. It's burnt ashes are like unto calcined Tartar, and for the purging metals not to be despised.

Aqua-fortis, or a strong Spirit, (that will dissolve Silver and baser metals) is made thus.

Take of Vitriol calcined 2. parts of Nitre one part; grind and mix them well together, and put them into a Glass Retort coated, or earthen Retort that will endure the fire, and set them into the Furnace in an open fire, and then having fitted a large Receiver, distil it by degrees the space of 24. hours, then rectifie the Water or Spirit in Sand.

Aqua-regia, or Strygia, or a strong Spirit that will dissolve Gold, is made thus.

Take of Nitre 2. parts, Salt-Armoniack one part, the powder of Flints 3. parts, put them into a Glass Retort coated, or earthen Retort that will endure the fire; distil them by degrees over a naked fire for the space of 12. hours, take it out and rectifie it. This Water will dissolve Gold.

Another

Another Aqua-regia is made thus.

Take of Spirit of Nitre, as much as you please, put a dram of crude Salt-Armoniack to every ounce of it, and it will be as strong as any *Aqua-regia*.

This water will dissolve Gold.

To make a most strong and vehement Aqua-Regia.

Take of the strongest *Aqua-fortis* that you can get, and well rectified, a pound, of Mercury sublimed four ounces, salt-Armoniack twenty ounces, mix all these together, and distil them.

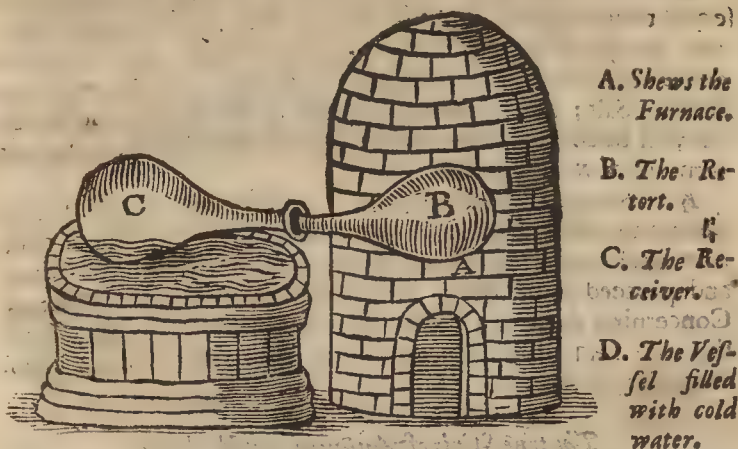
Oyl, or Butter of Antimony, is made thus.

Take of crude Antimony as much as you please, of sublimed Mercury a like quantity, make them both into a very fine powder, and mix them, and put them into a Glass-Retort. Give fire by degrees in a close Reverberatory, or let the Distillation be made in Sand. There will distil into the Receiver a fatness; part whereof (sticking to the neck of the Retort) will melt by a light fire being put to it. That fatness may be rectified in a Retort, and either be kept by it self as it is, or set in a Cellar or moist place, and be resolved into a Liquor.

This Oyl might be washed in good store of water, and then there will settle to the bottom a white powder, which being oft washed in fair water, till all the sharpness is gone, is then called *Mercurius-vita*, six or seven grains whereof is an excellent vomiting medicine.

A Fine

A Furnace for a close Reverberation furnished with its Retort and Receiver.



How to make a Water out of Antimony, whereof a few drops shall purge, or sweat, and which hath neither smell, or scarce any tast.

Take flowers of Antimony, sublime them with salt-Armoniac six or seven times, then wash away the Salt with warm water, and dry the powder, which then lay thin on a Marble in a Cellar till it be dissolved, (which will be in six weeks time). This water, if it be taken to the quantity of twenty drops, will purge, if in a lesser quantity, it will sweat.

To make an Oil, or Quintessence, of Metals.

Dissolve what Metal, or Mineral you please, in a strong Spirit of Salt, (except silver, which must be dissolved in *Aqua-fortia*) draw off the flegm in *Balneo*, pour on rectified Spirit of Wine, digest them so long till a red Oil swim above, which is the Quintessence of Metals, and Minerals, and is a very great secret.

A sweet and red Oyl of Metals and Minerals.

Dissolve a Metal, or Mineral, in spirit of Salt; dissolve also an equal weight of Salt of Wine essentiated; mix these dissolutions, and distil them by Retort in a gradual heat, and there will come out an Oyl sweet, and as red as blood, together with the spirit of Salt: and sometime the neck of the Retort, and Receiver will be coloured like a Peacocks-tail with divers colours, and sometimes with a golden colour.

And because I would without any difference comprehend all Metals and Minerals under one certain general process; let him that would make the Essence of Silver, take the Spirit of Nitre, and proceed in all things as was spoken of the other Metals. Concerning the use of these Essences, I need not speak much thereof; for to him that knows the preparation shall be discovered the use thereof.

THE TRUE SPIRIT OF ANTIMONY IS MADE THUS.

The true Spirit of Antimony is made thus.

Take of the subtile powder of the *Regulus* of Antimony as much as you please, sublime it of it self till it will sublime no more (still putting what is sublimed to that which remains at the bottom) or with salt-Armoniack six or seven times (remembering that then you must dulcifie it with warm water, by dissolving therewith the Salt) and dry the Precipitate afterwards. Set this fixed powder in a cellar, laying it very thin upon a Marble-stone, and about six weeks, or two months; it will all be dissolved into water, which must be filtered. Then evaporate part of this water, and let it stand two or three days in the cellar to crystallize. These Crystals purifie, and dry: Mix them with three times the quantity of the gross powder of Tiles, and distil them in a Retort, and there will come forth first a white Spirit, and then a red, which you may rectifie in *Balneo*.

THE TRUE OYL OF ESSENCE OF ANTIMONY IS MADE THUS.

Take of the foresaid Crystals; dissolve them in good rectified Spirit of Wine, digest them two months in *Balneo*, or Horse-dung:

dung : then evaporate the Spirit of Wine, and there will remain in the bottom the true Oyl or Essence of Antimony.

Then take new Crytalls of Antimony, and let them imbibe either this Oyl, or the foresaid Spirit, till they will imbibe no more, then digest them two months in sand, and they will become a flowing fixt Salt, and of excellent vertue.

The foresaid Spirit, this Oyl, and Essence of Antimony, may be equallized to *Aurum potabile*, to all intents and purposes, according to a medicinal use, especially the fixt Essence. The dose is five or six grains.

A burning Spirit made out of Lead, most fragrant and Balsamical.

Take the Calx of Saturn, or else Minium, pour upon it so much Spirit of Vinegar, that may cover it four fingers breadth; digest them in a warm place the space of twenty four hours, often stirring them, that the matter settle not too thick in the bottom : then decant the *Menstruum*, and pour on more, digest it as before, and this do so often, until all the saltness be extracted. Filter and clarify all the *Menstruum*, being put together, then evaporate it half away, and set the other part in a cold place till it crytallize. These Crytalls dissolve again in fresh Spirit of Vinegar; filter and coagulate the Liquor again into Crytalls, and this do so often, until they be sufficiently impregnated with the salt Armoniack of the Vinegar as with their proper ferment. Digest them in a temperate *Balneo*, that they may be resolved into a Liquor like Oyl : Then distil this Liquor in sand, in a Retort, with a large Receiver annexed to it, and well closed, that no spirits evaporate; together with the Observations of the degrees of the fire : then there will distil forth a spirit of such a fragrant smell, that the fragrancy of all flowers, and compounded perfumes are not to be compared to it. After Distillation, when all things are cold, take out, and cast away the black feces which is of no use : Then separate the yellow Oyl, which swims on the top of the Spirit, and the blood red Oyl which sinks to the bottom of it : Seperate the flegm from the Spirit in *Balneo*. Thou shalt by this means have a most fragrant Spirit, that even ravisheth the senses, and so Balsamical, that it cures all old

and new sores inward and outward, and so cordial, that the dying are with admiration revived with it.

They that have this medicine need scarce use any other either for inward, or outward griefs.

How to turn Quick-silver into a Water without mixing any thing with it, and to make thereof a good Purgative and

Diaphoretick Medicine.

Take an ounce of Quick-silver not purified, put it into a bolt-head of glass, which you must nip up, set it over a strong fire in Sand, for the space of two months, and the Quick-silver will be turned into a red sparkling Precipitate. Take this powder, and lay it thin on a Marble in a Cellar for the space of two months, and it will be turned into a water, which may be safely taken inwardly; it will work a little upward and downward, but chiefly by sweat.

Note, that you may set divers Glasses with the same matter in the same Furnace, that so you may make the greater quantity at a time.

I suppose it is the Sulphur which is in the Quick-silver, and makes it so black, that being stirred up by the heat of the fire fixeth the Mercury.

A fragrant Oyl of Mercury.

Take of Mercury seven times sublimed, and as often revived with unslaked Lime, as much as you please, dissolve it in Spirit of Salt in a moderate heat; then abstract the Spirit of Salt, and edulcorate it very well by boyling it in Spirit of Vinegar: then abstract the Spirit of Vinegar, and wash it again with distilled rain-water: then dry it, and digest it two months in a like quantity of the best rectified Spirit of Wine you can get. Distil them by Retort, making your fire moderate at the beginning, afterwards increasing it; then evaporate the Spirit of Wine in Balneo, and there will remain in the bottom a most fragrant Oyl of Mercury.

This Oyl so purifies the blood by sweat, and urin, that it cures all distempers that arise from the impurity thereof, as the venereal disease, &c.

The truth is, they that have this medicine well made, need but few other medicins: the dose is four or five drops.

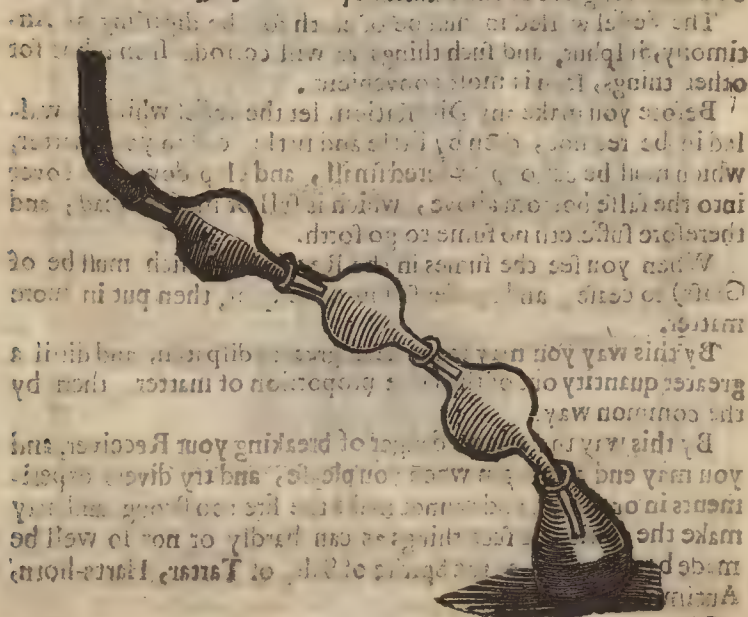
To

To make the Water of Mercury.

Take Mercury sublimate, and Sal-Armoniack, and sublime them together; then grind that which is sublimed, with that which remained after sublimation, and put it to sublime again, and there will remain more in the bottom of the Sublimatory than there did the first time, which work repeat so often, till all remain in the bottom, and look black, and melt like wax; which take and bruise small, and set in a cold Cellar on a Marble-stone, and it will dissolve into a Water of Mercury, which you may coagulate and dissolve till it be pure.

To turn Mercury into a Water by it self.

Set this following vessel, being made of Iron, into a Furnace, so that the three bowles thereof be within the Furnace, and the Pipe and Receiver be without. Make your Furnace so, as that there be a great hole left open at the top: where you must put in your coals, shutting it afterward with a cover of stone made fit thereunto; on the top also must be holes to let in air.

The Vessel for this Operation

First make your Iron vessel as red hot as possibly it can be made, (or else you do nothing) having first annexed an earthen well glazed Receiver to the bottom of it. Then put half an ounce of Quick-silver at a time in at the top, (which presently stop with clay) and presently the Mercury will come over, part in a sharp Liquor, and part as crude a Mercury as it was before, which you may put in again till it be all turned to water.

Note, that unless the Quick-silver give a great crack presently after it is put in, it is a sign that the vessel was not hot enough.

This operation being well prosecuted, may produce a medicin with which none under the Philosophers Elixir may compare.

How to distil Spirits, and Oyls out of Minerals, Vegetables, Bones, Horns, and Jaster, and in a greater quantity in one hour, than in the common way in twenty four.

The Furnace must be twice so high, as wide, and the Pipe must be a foot-long out of the Furnace.

The Vessel walled in must be of earth for the distilling of Antimony, Sulphur, and such things as will corrode Iron: but for other things, Iron is most convenient.

Before you make any Distillation, let the vessel which is walled in be red hot, then by little and little, cast in your matter, which must be cut, or powdered small, and clap down the cover into the false bottom above, which is full of molten lead, and therefore suffereth no fume to go forth.

When you see the fumes in the Receiver (which must be of Glass) to cease, and condensed into a Liquor, then put in more matter.

By this way you may make a far greater dispatch, and distil a greater quantity out of the same proportion of matter, then by the common way.

By this way there is no danger of breaking your Receiver, and you may end and begin when you please, and try divers experiments in one hour, and cannot make the fire too strong, and may make the spirits of such things as can hardly or not so well be made by a Retort, as the Spirits of Salt, of Tartar, Harts-horn, Antimony, &c.

This must be done in such a Furnace as this.



A, Signifies the Furnace with its Iron, or earthen distilling vessel walled in, to which a very large Recipient is joyned. B, the Distiller, who with his left hand raises off the cover, and with his right casteth in his prepared matter with an Iron ladle. C, the form of the distilling vessel. D, the same, as it appeareth inward. E, the form of the vessel walled in, but standing on the coals for other uses.

Salt

Salt and such things as will flow must have bole, or powder of Brick mixed with them before they be cast into the vessel, or if you please, you may first dissolve what Salt you please, and with red hot gross powder of Brick, imbibe the water, then cast in this powder by little and little into the distilling vessel, and the Salt by this means will yield its Spirit quickly and in abundance. By either of these two wayes you make a pound of the Spirit of Nitre in an hour, and of Salt in two hours.

Now whereas some things yield a Spirit, and a thick and heavy Oyl, they may be rectified thus: viz. by putting them into a Retort, and distilling them in sand, or ashes, with a gradual heat: there will come forth the flegm of some Liquors first, and then the Spirit, and of othersome the Spirit, and then the flegm; but of all these the heavy thick Oyl at last; which by distilling off becomes far clearer than before, which may again be rectified by Spirit of Salt, as I have shewed before, and therefore need not here repeat it.

How to make the acid Oyl and volatile Spirit of Vitriol.

To distil Vitriol, there needs no other preparation, but only that it be well viewed, and if there be any filth amongst it, that the same be carefully pickt out, lest being put together with the Vitriol into the distilling vessel, the spirit be corrupted thereby.

Now your vessel being made red hot, with an Iron-ladle cast in one or two ounces of your Vitriol at once, put on the lid, and presently the Spirits together with the phlegm will come over into the Receiver, like unto a white-cloud or mist; which being vanished, and the Spirits partly ferred, carry in more Vitriol, and continue this so long, until your vessel be full: Then uncover your vessel, and with a pair of Tongs, or an Iron-ladle, take out the *Caput-Mortuum*, and cast more in; and continue this, proceeding as long as you please, still emptying the vessel when it is filled, and then casting in more matter, and so proceeding until you conceive that you have got Spirits enough. Then let the fire go out, and let the Furnace cool; take off the Receiver,

Receiver, and pour that which is come over into a Retort, and lay the Retort in Sand, and by a gentle fire distil the volatile Spirit from the heavy Oyl; having first joyned to the Retort the Receiver, which is to receive the volatile Spirit, with a good lute.

All the volatile Spirit being come over, which you may know by the falling of bigger drops, then take off the Receiver, and close it very well with wax, that the Spirit may not make an escape; then apply another (without luting it) and so receive the phlegm by it self, and there will remain in the Retort a black and heavy corrosive Oyl, which if you please, you may rectifie, forcing it over by a strong fire, and then it will be clear; if not, let all cool, then take out your Retort together with the black Oyl, and pour upon it the volatile Spirit, which in the rectifying went over first; put the Retort into the Sand, and apply a Receiver, and give it a very gentle fire, and the volatile Spirit will come over alone, leaving its phlegm behind with the Oyl, which by reason of its dryness doth easily keep it. Thus the Spirit being freed from the phlegm, is become as strong as a meer fire, and yet not corrosive. And if this Spirit be not rectified from its own Oyl, it will not remain good, but there doth precipitate a red Powder after it hath stood for some space of time, and the Spirit looseth all its vertue, in so much that it is not to be discerned from ordinary water, which doth not happen when it is rectified. The reason of this precipitation is no other then the weakness of the Spirit, which is accompanied with too much water; and therefore not strong enough for to keep its Sulphur, but must let it fall; but after it is rectified by its own Oyl, it can keep its Sulphur well enough, because then it is freed from its superfluous moisture. However the red Powder is not to be thrown away; but ought to be kept carefully; because it is of no less vertue than the Spirit it self. And it is nothing else but a volatile sulphur of Vitriol. It hath wonderful vertues, some of which shall be related.

The Use and Dose of the Narcotick Sulphur of Vitriol.

Of this Sulphur 1.2.3.4. or more grains (according to the condition of the Patient) given at once, mitigates all pains, causeth quiet sleep; not after the manner of Opium, Henbane, and other the like medicines, which by stupefying and benumbing cause sleep, but it performeth its operation very gently and safely, without any danger at all; and great diseases may be cured by the help thereof. *Paracelsus* held it in high esteem, as you may see, where he doth write of *Sulphur embrionatum*.

To make an Oyl of Lapis Calaminaris.

Take of *Lapis Calaminaris* powdered as much as you please, pour on it five or six times as much of rectified Spirit of Salt; shake them together continually, or else it will be congealed into a hard mass, which can hardly be mollified again: when no more will dissolve *in frigido*; put it in warm Sand so long, till the Spirit of Salt be of a high yellow colour, then pour it off, and put on more, till all be dissolved that will; cast away the feces, put the solution into a Glass-body, and distil it in Sand: about the third part of the Spirit of Salt cometh over as insipid as common water, though the Spirit were well rectified before, for the dryness of the *Lapis Calaminaris* (which is the driest of all Minerals and Metals except Zink) retaineth the Spirit: after the flegm is come over, let the Glass cool; and thou shalt find at the bottom a thick red Oyl very fat, even as Oyl-Olive, and not very corrosive; keep it from the air, or else it turneth into water.

It is of wonderful vertue for inward, and outward griefs; for it hath in it a pure golden Sulphur.

Common Sulphur mixed with this Oyl, and melted in a strong fire swimmeth like water above, and is transparent.

This Oyl distilled in a Retort with pure Sand in a strong fire, yieldeth a Spirit like fire, scarce to be contained in any vessel.

fel, and dissolveth all metals, except Silver; and reduceth pure Spirit of Wine into an Oyl within a few dayes.

To make Oyl of Talk.

Take of the best Talk reduced into very thin flakes, make them red hot, and then quench them in the strongest *Lixivium* that Sope-boylers use; do this fifteen times, and it will become as white as Snow: then powder it very small, and Calcine it by fumigation, (i.) by the fume of some very sharp Spirit, as of *Aqua-fortis*, or the like: when it hath been thus calcined for the space of a Fortnight, it will become somewhat mucilaginous; then set it in any heat of putrefaction, as it is (for it hath imbibed enough of the sharp Spirit to moisten and ferment it) for the space of two months in a bolt-head nipt up: then evaporate the acid Spirit, and dulcifie it with distilled Rain-water. After this, extract what thou canst out of it with the best rectified Spirit of Wine; pour off the solution and evaporate the Spirit of Wine, and at the bottom will be a most beautiful Oyl.

The Oyl is the most glorious *sucum* or paint in the World.

To make Oyl of Talk another way.

Take of the foresaid powder of Talk after it hath been putrified, and again dulcified as much as you please, put four times as much of the best circulated Oyl of Camphire to it, digest them in Horse-dung till all the powder be dissolved, and the Oyl become mucilaginous, which will be within two months.

This is for the same use as the former.

There is required a great deal of pains, and care, and no small cost in the preparation of these Oyls.

Oyl is made of Bole-Armoniack, Terra-sigillata, and such kind of Clay-earths, thus:

Take of either of those Earths as much as you please, break

it into small pieces, and put it into a Retort over a naked fire for the space of twelve hours, and there will distil into the Receiver (which must be large) the flegm; then white Spirits in a little quantity, yet of a grateful taste and smell.

Oyl out of these kinds of Earth is made better thus.

Take of either of these Earths which you please, as much as you will; pour upon it distilled Rain-water, set it in some warm place for a month, or more, and the Oyliness will separate from its body, of its own accord, and swim upon the water. Separate the water by a Tunnel, and distil the Oyl with five parts of the Spirit of Wine well rectified, and there will come forth an Oyl of a golden colour, swimming on the Spirit, which is a most excellent Balsom.

Spirit of unslaked Lime is made thus.

Take of unslaked Lime as much as thou pleasest; reduce it into a subtle powder, imbibe it with Spirit of Wine most highly rectified, (which must be pure from all its flegm, or else you labour in vain) as much as it can imbibe; draw off the Spirit of Wine with a gentle heat, cohobate it 8. or 10. times, so will the fiery vertue of the Lime be fortified. — Take of this levigated Lime 10. ounces, pure Salt of Tartar one ounce, the feces of Tartar after the Salt is extracted 11. ounces; mix these well together, put them into a Glass-Retort coated, see that 2. parts of 3. be empty; distil them into two Receivers, the phlegm into one, the Spirit into the other, which must have a little of rectified Spirit of Wine in it to receive the Spirit.

If thou wilt separate the Spirit of Wine, then put fire to it, and the Spirit of Wine will burn away, and the Spirit of the Lime stay behind, which is a kind of a fixed Spirit.

This is a very rare secret for the consuming the Stone in the Bladder, and the curing of the Gout.

Oyl.

Oyl made out of Tile-stones called the Oil of Philosophers.

Take of Bricks or Tiles as many as you please, break them into small pieces, make them red fire hot, then quench them in pure old Oyl Olive (in which let them lie till they be cold) then take them out and grind them very small, let the powder be put into a glass Retort, coated, a fit receiver being put there-to and distil off the Oyl in a naked fire by degrees, which being distilled off keep in a viol close stopr.

This Oyl is wonderful penetrating, and is good against all cold-distempers whatsoever.

The Liquor or Water of Coral, is made thus.

Take Salt-Armoniack well purified by sublimation, of red Coral finely powdered, of each a like quantity; sublime them so often till the Coral will no more rise up, then take the Calx of Coral that remains in the bottom of the sublimatory and put it on a marble or glass in the cellar to be dissolved; that which will not be dissolved, sublime again, and do as before till all be dissolved: and so thou hast the Liquor of Coral.

Note, that if thou wilt have the true tincture of Coral, evaporate the humidity of the foresaid Liquor, then extract the tincture out of the powder with Spirit of Wine, which Spirit evaporate to the consistency of Hony: And thou hast a most rare medicine.

This Medicine strengtheneth all the parts in the body, and cures all distempers that arise from the weakness thereof.

To make a water out of Lapis Armenus that shall have neither taste nor smell, a few drops whereof shall purge.

Take of *Lapis Armenus* powdered small, and calcined, as much as you please, sublime it with Salt Armoniack until it will sublime no more, but remain in the bottom of the sublimatory, then take it out, and lay it very thin upon a marble in a cellar, and there let it lie two months, and it will be almost all dissolved into a liquor.

Or thus.

Take of *Lapis Armenus* powdered small and calcined, as much as you please, pour upon it of distilled Vinegar, as much as will cover it four fingers breadth, then set it over a gentle heat stirring it 2 or 3 times in an hour, for the space of 6 hours or thereabouts; then the Spirit being tinged very blew with the powder filter off from the feces, then pour more Spirit of Vinegar on the feces, and do as before, till the Spirit be tinged no more; then take all the blew spirit, and vapour it away, and at the bottom you shall have a salt, which you must put into a calcining pot, and calcine so long in the fire till no more vapour will arise, and it become a dark red powder, then put it upon a marble in the cellar for the space of two moneths, and it will be dissolved into a Liquor, a few drops whereof put into a glass of beer will purge delicately.

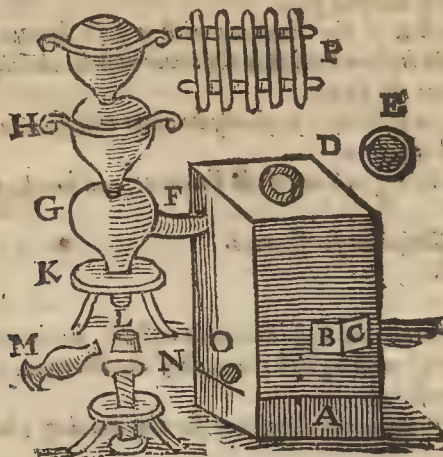
How to make a Furnace that shall of it self, without any vessels which should contain the matter, being put into it, sublime Minerals, and distil all manner of Oyles and Spirits out of Minerals, Vegetables, and Animals, and that in a very great quantity, in a very short time, and with small cost.

The Furnace is made as followeth: It may be made of one piece by a Potter, or of brick, round, or four-square, greater or lesser as you please: if the inside be one span broad in the middle, it must be four high; one for the Ash-hole, another above the grate to the middle Coal-hole, and two above the Pipe; this pipe being made of earth or iron, must be a span long betwixt the Furnace and the Receiver, and a third part as wide as the Furnace within.

The Recipients must be made of glass, or very good earth well luted together; the greater the better.

The

The First Figure.



The Second Figure.



A, Signifies the Ash-hole which must be as wide as the Furnace, and
always open that the fire may burn the stronger.

B, The

- B, *The middle hole of the Furnace for the putting in of coals.*
 C, *The stopple made of stone.*
 D, *The upper hole of the Furnace with a false bottom wherein sand lyeth, which is there laid that the cover may lie the closer, and keep in the fumes the better.*
 E, *The Cover, which must presently be clapt on, as soon as the matter to be distilled is put in.*
 F, *The pipe which goeth out of the Furnace, and to which the Receiver is fitted.*
 G, *The first Recipient for flowers.*
 H, *The second.*
 I, *The third.*
 K, *A Stool whereon the first Recipient resteth, in the midst whereof is a hole, through which goeth the neck of the Recipient to which another glass is fitted.*
 L, *The glass fitted to the Recipient for the uniting the Spirits that drop down.*
 M, *Another Recipient united to the former Glass, and into which the united Spirits do run.*
 N, *A stool through the middle whereof goeth a screw for the raising of that glass, which is set under the first Recipient, higher, or lower.*
 O,
 P, *The Grate with two thick Iron-barrs, which lie fast, upon which four or five thinner are laid, which may be stirred when the Furnace is made clean.*

Thus far the first of the figures is explained, by which you may see how sublimation and distillation is made at one time, viz. of those things which will yield both flowers, and spirits, (the flowers sticking in the three upper Recipients, and the Spirits dropping down into the lower.)

Now follows the explanation of the second figure, which is the same with the former in respect of the Furnace it self, but differing in respect of the Recipients, which serve for the receiving of the Spirits and Oyles of such things as yield, no flowers: Therefore I shall begin with the explanation of the Receivers,

G, The first crooked-pipe as it is fitted to the pipe that comes out of the Furnace.

H, The Recipient with its cover, in which is one hole for one crooked-pipe to go through, as you may see in the first H, and two holes for two pipes to go through, as you may see in the second H, and in HH.

Note, that these pipes may either be fastened to the cover, being all of one piece, or they must be well luted, that no vapours may pass through. Now you must conceive that in the lower Receivers the vapour that goeth out of the first pipe goeth first into the Receiver, then out of that into the next Pipe, and so forward till it cometh into the last Receiver, by which means it is much cooled (for indeed such vapours that come out of the Furnace, especially when some materials are distilled, if there were not some such art to cool them, would break all Recipients.)

I, A Tub of water, wherein the Recipient stands, to cool the vapours and condense them.

K, The first crooked pipe as it goeth into the Recipient.

L, The second crooked pipe, whereof one end goeth into one Receiver, and another end into another.

M, The last crooked pipe, to which you must annex a Receiver.

Now the manner of distilling is thus: Let the Furnace be full of coals well kindled, then cast on your matter, and stop your Furnace close: This Furnace needs no Retort, or other vessels to be set into it, neither can you do any hurt by too much or too little fire; and you may finish your operation when you please, and in one hour try divers experiments. It saveth very much time, and cost, and in one hour will do as much as can be done in another Furnace in 24. In one hour you may make a pound of Spirit of Salt with four or five pound of coals, and as much flowers of Antimony in a like space of time, and with as few coals.

If your materials be vegetables, or horn, or bones, cut them

P

small;

small; if hard Minerals, let them be powdered very small, if salt, let them first be dissolved in water, which water must be imbibed with red hot coals, until all the liquor be imbibed: then cast in those coals into the Furnace.

If you would by this means procure the Spirit of hard Minerals, as of Antimony, you must take them as they come from the Mine, before they have passed the fire.

By this Furnace you may make the Spirits of such things, which will not yield them in any other way.

Note, that such Oyls and Spirits as are drawn by this Furnace, must be rectified in Spirit of Salt, as I have above shewed.

The way to make Spirit of Salt by this Furnace.

Mix Salt, and Vitriol or Allome together, grinding them very well in a Mortar, (for by how much the better they are ground, the more spirit they yield.) Then cast this mixture into the fire with an Iron-ladle, viz. so much of it as will be sufficient to cover the coals, and then with a great fire the Spirits come forth into the Receivers, where being coagulated, they distil down into a dish, and thence into another Receiver. And if thou knowest how to work aright, the Spirits will like water continually run out through the pipe the thickness of a straw; and thou mayest easily every hour make a pound of the Spirit. Now the reason why thou shalt by this way have more Spirits than by the other, is this, viz. because the Vitriol, and Allom, which is mixed with the Salt, makes it flow quickly, by which means it is prevented from falling down through the Coals to the lower part of the Furnace, but sticking to the coals is almost all of it turned into spirits. The *Caput Mortuum*, which is reddish, easily falls with the ashes through the grate, and can no more be distilled, but yields by excoction a white fixed Salt, which serves for the flowing of metals; and being dissolved in warm water serves also for a Glyster against the Worms, which it kills, and purgeth also the Bowels.

Thou wilt object, that the spirit made after this manner is not the true spirit of Salt, by reason of the mixture of Vitriol and Allom, but mixed, and compounded. I answer; There can by
this

this way distil no spirit of Vitriol, and Allom, being that which I often tryed, casting Vitriol, or Allom into the Furnace, where I received no Spirit at all ; the reason of this is, because these spirits are far more heavy then the spirit of Salt, neither can they ascend so great a height, *viz.* of three spans, but are burnt, whence unless phlegm, nothing distills. Wherefore the spirit of Salt that is made after this manner is not mixed, but pure and meer spirit of Salt, of the same tast, and vertue as that is of, that is made by it self; because in this Furnace the spirit of Allome, and Vitriol, cannot be made, unless a pipe go out of the Furnace neer the grate, as you may see by the delineation of the Furnace, for otherwise it cannot be made.

Of the use of the Spirit of Salt.

The Spirit of Salt is by most accounted a most excellent medicine, and safely to be used as well inwardly, as outwardly: It extinguisheth a preternatural thirst in hot diseases, abstergeth, and consumeth flegmaticque humors in the stomach, exciteeth the appetite, is good for them that are hydropical, have the Stone, and Gout, &c. It is a *Menstruum* dissolving metals, excelling all other therein: For it dissolveth all metals and minerals, (excepting silver) and almost all stones, (being rightly prepared) and reduceth them into excellent medicaments.

The clear Oyl of Mastick, and Frankincense.

Take of Frankincense, or Mastick, powdered small, as much as will serve to fill the third part of a cornute; (which must be coated) upon which pour a sufficient quantity of the spirit of Salt, taking heed that the Retort be not filled too full, or else the spirit when it boyls, flows over it, then place it in Sand, and give fire by degrees, and there will first come out some phlegm, after which a clear transparent Oyl, together with the spirit of Salt, which must be kept by it self, after this a certain yellow Oyl, which must be received by it self: and last of all, there follows a red Oyl, which although it is not to be cast away, yet it is very unlike to the first, serving for outward uses, and to be mixed

with Oyntments and Emplasters; for it doth wonderfully consolidate, and therefore good in new and old wounds. The first being well rectified is in its subtilty, and penetrating faculty; not unlike to spirit of Wine, and may profitably be used inwardly, and outwardly; *viz.* in cold affects, but especially in the stiffness of the Nerves caused by cold humors, upon which follows a contraction; but then you must first rub the member contracted with a linnen cloth, that it may be well warmed, into which then the Oyl must be chafed with a warm hand: For it doth do wonders in such like affects of the Nerves.

After the same manner may Oyls be made out of all Gums. The red, tenacious, and stinking Oyls of Tartar, Hartshorn, Amber, &c. distilled after the common way by Retort are also rectified with spirit of Salt, so as to become transparent, and to lose the *Empyreuma* contracted by distillation.

Ros Vitriol is made thus.

Take of the best Danick-Vitriol, as much as you please, uncalcined; put it into a Glass-gourd, and distil it in Sand, and there will come over a water somewhat sharpish.

This Water or *Ros* is of greater use then the Spirit or Oyl thereof.

It helpeth all inward inflammations, as of the Liver, Kidneys, Stomach, helps the ebullition of bloud, and all distempers that come from thence.

This is that phlegm, which most vapour away, but it is because they know not the vertues thereof.

A sweet green Oyl of Vitriol is made thus.

Take as many Copporas stones as you please, beat them small, and lay them in a cool Cellar, and in twenty or thirty days they will attract the air, and look black, and after fourteen days become whitish, and sweetish; then dissolve them in distilled rain-water; then filter and evaporate the water, and they will shoot into green Crystals, which you may dissolve in a cellar *per deli-*

deliquium, being first beaten small, and laid on a Marble-stone.

This Liquor is that famous medicine of *Paracelsus* for the Falling-sickness, a few drops thereof being taken in any appropriated liquor.

Take heed that it come at no strong fire, for then saith *Paracelsus*, it loseth its greenness, and as much as it loseth of that, so much also of its vertue.

A Spirit may be drawn from hence by an ingenuous Artist, that will smell like Musk, or Amber.

The Sulphur of Vitriol may with Spirit of Wine be extracted thus.

Take of the best Danick-Vitriol half a pound, dry it by a gentle fire till it be whitish, then pour on it of the best rectified Spirit of Wine thirty ounces, (Note, that there must come to it no other moisture than the Spirit of Wine, the Glass also must be very dry, else you labour in vain) then digest it in Horse-dung, the space of a month; then decant from the feces the Spirit of Wine without any troubling of it, then in *Balneo*, evaporate the Spirit, and at the bottom you will have a yellow liquor of a most wonderful stipticity.

This liquor is a famous Anodynum, suppressing all noxious vapours whatsoever, and causing rest.

A few drops thereof may be taken in any specifical liquor.

A Sudorifical Water to be used outwardly.

Take of sublimed Mercury very finely powdered an ounce and half, of Euphorbium powdered a scruple, Spirit of Wine well rectified, and Rose-water, of each a pound; digest them two or three hours in a gentle *Balneo*, the neck of the vessel which must be very long, being well stoppt; then let them boil a quarter of an hour: when the liquor is cold, pour it from the feces, and keep it in a Glass.

If the Back-bone be bathed with this Water, or the wrist of those that be weak, it causeth sweat presently, if it be done in the bed. By which means diseases that require sweat may be cured. Also any pained place by be-

ing bathed with this Water is in a little time eased.

Note, that you must not bath any place above three or four times with it, for by being too often used, it contracts the skin.

How an acid Spirit, or Vinegar, may be distilled out of all Vegetables, as Herbs, Woods, Roots, Seeds, &c.

First put a few living coals into the Furnace, then put upon them wood that is to be distilled, that it may be burnt: out of which whilest it is burning goes forth the acid Spirit thereof into the Receiver, where being condensed, it falls down into another Receiver, resembling almost common Vinegar in its smell, wherefore also it is called the *Vinegar of Woods*.

And after this manner you may draw forth an acid spirit out of any wood, or vegetable, and that in a great quantity without costs, because the wood to be distilled is put but upon a very few living coals, and upon that another, for one kindles the other; and this spirit requires no more charges then of the wood to be distilled; which is a great difference betwixt this, and the common way of distilling, where besides Retorts, is required another fire; and out of a great Retort scarce a pound of Spirit is drawn in the space of five or six hours; whereas in ours, in the space of one day, and that without any cost or labour may be extracted twenty or thirty pounds, because the wood is immediately to be cast into the fire to be distilled, and that not in pieces, but whole: Now this spirit (being rectified) may commodiously be used in divers Chymical operations, for it doth easily dissolve animal stones, as the eyes of Crabs, the stones of Perches, and Carps, Corals also and Pearl, &c. as doth Vinegar of Wine. By means thereof also are dissolved the Glasses of Metals, as of Tin, Lead, Antimony; and are extracted, and reduced into sweet Oyls.

The Spirits, Flowers, and Salts of Minerals and Stones.

By this way Spirits may be raised from any Mineral or Stone, and that without the addition of any other thing: yet so, as that the

the Minerals, as Stones, as Flints, Crystal, Talk, *Lapis Calaminaris*, Marcasite, Antimony, being ground with an Iron-ladle cast upon the coals, and there will arise together with a certain acid Spirit, some Salt and Flowers, which are to be washed off from the Recipients, and filtered, and the flowers will remain in *Charta bibula*, for the water together with the Spirit, and the Salt passeth through the filter, all which may be separated, rectified and be kept by themselves for their proper uses. Now this you must know, that you must choose such Minerals which have not been touched by the fire, if you desire to have their spirit.

How to rectifie Oils and Spirits of Minerals.

Put the Liquor that is distilled from Minerals into the Retort, to which give fire by degrees, and the Spirit will rise up into the upper Receiver, and the heavy Oyl will go into the middle Receiver, which is the biggest of all, and into the little Receiver annexed to the end of the middle, will pass some of the Spirit, which though it passeth into the middle Receiver, will not stay there, but goeth beyond it because it finds vent.





Of ANIMALS.

BOOK IV.

*Waters, Spirits, and Oyls, simple and compound
out of Animals.*

Oyl and Water out of Bloud, is made thus.



Take of bloud as much as you please, let it stand in putrefaction in a Glass-vessel close covered the space of forty dayes, then distil it in ashes, and there will come forth a Water and Oyl: extract the Salt out of the feces with the said water, calcine the Salt in a Crucible, and then dissolve it in the said water, and then distil off the water (which will be a good rectifying of the Water) and dry the Salt very well, which then mixed with the foresaid Oyl, being first rectified, and digest them both together for the space of a month.

To make the Magistery of Bloud.

Take of the purest Bloud as much as you please, put it into a Pellican, that three parts of four may be empty, and digest it a month

month in Horse-dung (in which time it will swell and become as much more as it was when it was put in) then distil off the flegm in *Balneo*, and in the bottom will remain the Magistery of Bloud, which must be distilled, and cohobated nine times in a Retort in ashes, and then it is perfected.

This Magistery is of excellent vertue, which being taken inwardly, and applyed outwardly, cureth most diseases, and easeth pain, being very Balsamical.

Elixir of Mummie is made thus.

Take of Mummie (*viz.* of Mans-flesh hardened) cut small four ounces, Spirit of Wine terebinthinated ten ounces, put them into a glazed vessel, (three parts of four being empty) which, set in Horse-dung to digest for the space of a month; then take it out and expresse it, let the expression be circulated a month, then let it run through *Manica Hippocratis*; then evaporate the Spirit, till that which remains in the bottom be like an Oyl, which is the true Elixir of Mummie.

This Elixir is wonderful preservative against all Infections, also very Balsamical.

The Essence of Mans-brains.

Take the Brains of a young man that hath dyed a violent death, together with the Membranes, Arteries, Veins, Nerves, and all the pith of the Back; bruise these in a Stone-mortar till they become a kind of pap, then put as much of the Spirit of Wine, as will cover it three or four fingers breadth: then put it into a large Glass, that three parts of four be empty, being Hermetically closed, then digest it half a year in Horse-dung, then take it out and distil it in *Balneo*, and cohobate the water till the greatest part of the Brains be distilled off.

A scruple or two of this Essence taken in some specifical water once in a day is a most infallible medicine against the Falling-sickness,

A Famous Spirit made out of Cranium-humanum.

Take of *Cranium-humanum* as much as you please, break it into small pieces, which put into a Glass-Retort well coated, with a large Receiver well luted, then put a strong fire to it by degrees, continuing of it till you see no more fumes come forth; and you shall have a yellowish Spirit, a red Oyl, and a volatile Salt.

Take this Salt and the yellow Spirit, and digest them by circulation two or three months in *Balneo*, and thou shalt have a most excellent Spirit.

This Spirit is of affinity with, if not the same as that famous Spirit of Dr. Goddard's in *Holborn*.

It helps the Falling-sickness, Gout, Dropsie, infirm Stomach; and indeed strengthens all weak parts, and openeth all obstructions, and is a kind of *Panacæa*.

Another excellent Spirit made out of Cranium, Harts-horn, or Ivory.

Take of either of these, (if you take *Cranium*, it need not be bruised at all, only broke into little pieces; if Harts-horn or Ivory, you must cut them in thin pieces) lay it piece by piece upon a net spread upon any vessel, being almost full of water, cover this net with another vessel very close, then make the water boil, and keep it boiling three days and three nights, and in that time the Bones, or Horns, will be as soft as Cheese; then pound them, and to every pound thereof, put half a pound of Hungarian Vitriol uncalcined, and as much Spirit of Wine as will make them into a thin paste. This Paste digest in a vessel Hermetical seal'd the space of a moneth in *Balneo*! then distil it in a Retort in Sand till all be dry, and you shall have a most excellent Spirit.

This Spirit is of wonderful use in the Epilepsie-Convulsions, all Feavers putrid or pestilential, passions of the heart, and is a very excellent Sudorifick.

This Spirit may be taken from the quantity of half an ounce to an ounce in some specifical liquor.

A Water and Oyl made out of Hair.

Fill an earthen Retort with Hair cut small, set it over the fire, and fit a Receiver to it, and there will come over a very stinking Water and Oyl.

This Water and Oyl is used in *Germany* to be sprinkled upon fences and hedges, to keep wild and hurtful Cattle from coming to do harm in any place; for such is the stink of this liquor, that it doth affright them from coming to any place near it,

Water of Milk is made thus.

Take of what Milk thou pleassest a Gallon, in it dissolve half a pound of Salt, and put to it two handful of Plantain, and an ounce of Licorish sliced, then distil it in a hot Still with a gentle fire.

This water is of excellent use in hot distempers of the Lungs and Kidneys.

You may put in other ingredients, according to the use you would have it for.

An excellent compound water of Milk for any Inflammations in the eyes.

Take of Womans-milk a pint, of white Copperas a pound, distil them in ashes. Note, that assoon as thou perceivest any sharp to come off, then cease.

Let inflamed eyes be washed three or four times in a day with this water, and it helpeth them wonderfully.

Spirit of Urine is made thus.

Take of the Urine of a young man drinking much Wine, as much as you please, let it stand in Glas-vessels in putrefaction 40. days, then pouring it from its feces, distil it in a Glas-gourd in Sand, till all be dry; then cohobate the said Spirit on the *Caput-Mortuum* three times; then distil it in a Gourd of a long neck,

neck, and there will ascend, besides the Spirit, a CrySTALLINE Salt, which thou maist either keep by it self, being called the Volatile Salt of Urine, or mix it with its Spirit which will thereby become very penetrating, if they be digested for some days together.

Note, that the pipe of the head must be wide, or else the Volatile Salt will soon stop it.

Note, that this Salt is so penetrating, that it penetrateth the body of the Glass.

This Spirit by rectification may be made so pure, and subtle, that it will burn as fire, and dissolve Gold, and precious Stones.

This being often applyed to any place pained with the Gout, easeth it presently; it also quickens any part that is benumbed.

The Salt Volatile is *Helmont's* famous medicine for the Jaundice.

A compound Spirit of Urine.

Take of Hungarian Vitriol a pound, the Urine of a Boy that is healthy, four pints: put these into a Glass-vessel well closed, that three parts of four may be empty; digest them in *Balneo* for the space of a month, then distil them in ashes till all be dry.

This Spirit is of great vertue in the Epilepsie, Gout, Dropfie, Convulsions, being taken from two drams to half an ounce in some specifical liquor.

To make a Spirit of Honey.

Take good strong stale Mead, otherwise called Metheglin, as much as thou pleasest, distil it in a Copper Still, or Alembick, with its Refrigeratory, and it will yield a Spirit like *Aqua-vita*.

The Quintessence of Honey is made thus.

Take of the purest Honey two pound, of Fountain-water one pound; boyl these together till the water be boyled away, taking off all the scum that riseth, then take the Honey and put

it into a Glass, four parts of the five being empty, close it well, and set it in digestion a whole year, and thou shalt have the Essence of Honey swimming on the top, in the form of an Oyl, being of as fragrant a smell as any thing in the world; the phlegm will be in the middle, and the feculent matter in the bottom, of a dark colour, and stinking smell.

Some make the Quintessence of Honey after this manner.

Take as much Honey as thou pleasest, of the best, put it into a Gourd of Glass; first distil off the phlegm in *Balneo*, then extract the tincture out from what remains, with the said Water, then calcine the remaining feces, and extract from thence the Salt with the foresaid Water, being distilled off from the Tincture; calcine the Salt, and melt it in a Crucible, then let it dissolve in a Cellar; then again evaporate it away, and thou shalt have a most white Salt, which let imbibe as much of the Tincture as it will; digest them for three months, and thou shalt have an Essence of Honey.

An Essence of Honey may be made thus.

Take of Honey well despumated as much as you please, pour upon it as much of the best rectified Spirit of Wine as will cover it five or six fingers breadth; digest them in a Glass-vessel well closed (the fourth part only being full) in a temperate *Balneo*, the space of a fortnight, or till the Spirit be very well tinged, then decant off the Spirit, and put on more till all the tincture be extracted; then put all these tinctures together, and evaporate the Spirit till what remains begin to be thickish at the bottom, and of a golden colour.

This is a very excellent Essence of Honey, and is of so pleasant an odour, that scarce any thing is like to it.

It is so cordial, that it even revives the dying, if two or three drops thereof be taken in some Cordial Water.

A most strong Spirit of the Vinegar of Honey.

Take a pound of Honey, put to it of the best White-wine-vinegar,

vinegar six pints, an ounce of white Pepper bruised small, of the strongest Mustard-seed bruised three ounces; put these into a Glass-vessel, that three parts of four may be empty; digest them in a temperate *Balneo*, or set the Vessel in the Sun for the space of a fortnight, then distil them in *Balneo*, and thou shalt have a Spirit far sharper than the common Spirit of Vinegar.

This Spirit is stronger, and better than any common distilled Vinegar for the dissolving of hard things, and extracting the tinctures out of things.

Oyl, or Quintessence of Wax.

Take of the best Wax a pound, as much of pure Sand well washed from all its impurity, and again dried; First melt the Wax, and then mix the Sand with it very exactly; then put them into a Glass-Retort well coated, fit a strong Receiver to it, and set it in Sand, give it fire by degrees, continuing it four dayes, which at last must be very strong, and there will come off a spirituous Oyl, which must be rectified, seven times in a Glass-Retort, every time changing the Retort, and you shall have a subtle Oil of a golden colour.

This Oyl extracts the vertues out of all Flowers presently, being set in the Sun, it is wonderful Balsamical for the cure of wounds or ulcers, both inward, and outward; it also being applied outwardly, easeth all pains, quickens any dead member, as in the Palsie.

Water is made out of any flesh thus.

Take what flesh you please, the bloudest part thereof, unwashed, being cut very small, and then bruised (or if it be a feathered fowl, take it being chased up and down, until it be wearied, and then suddenly strangled, the feathers being plucked off without putting of it into water, and being thus plucked bare, and the bowels taken out, cut the flesh; bones, gizzard, liver, heart,) and pour upon it as much water as will be sufficient, with what spices and herbs thou pleasest, then set it over a gentle fire in an earthen vessel glazed the space of 24. hours, then put the head upon it and

and lute it close, and there will distil off a comfortable restorative water.

Water, or Liquor, is made out of flesh thus.

Take off what flesh you please, or feathered fowl prepared as before, bruise it small, and put it into a Copper vessel tinned within side, without any water being put to it, put a cover to it, and lute it close, and set it *Balneo*, or over the vapour of seething water, and if the flesh be tender, it will be turned into a clear liquor the space of twelve hours, if harder, it will require a longer time: You may put in what spices or hearbs you please, to give it a good relish and odour; after all is done, you may strain it and keep it for use, being very restorative and good for weak stomachs, that cannot concoct hard meat.

If this be digested in a Pellicans or Bolt-head a fortnight, it will be farr better.

After this manner may be preserved Snails, Worms, &c. and such like, which are very medicinable.

A very excellent Restorative Liquor.

Take of the heart, lungs, and liver of a Calf, the same part of a Fox new killed, cut them small, put to them a quart of Shell-Snails well scoured in salt-water; let these be put into a Copper vessel tinned within side, and covered close, that no vapour come forth; set this vessel over the vapour of seething-water, and in 24. hours, or thereabouts, they will be for the most part of them turned into a liquor of themselves; then take out this liquor, and put it into a large Pellican, or Bolt-head, putting to them a quart of old Malligo-wine, Rosemary-flowers, Betony-flowers, Marygold-flowers, Marsh-mallow-flowers, of each a handful, half a pound of Raisins of the Sun stoned, Mace and Nutmeg, of each two drams; digest all these together the space of a fortnight, then pour off that which is clear from the feces, and sweeten it with Sugar, or Syrup of Gilly-flowers, and let the Patient take thereof five or six spoonfuls, three or four times in a

This.

This liquor recovereth the decaying strength wonderfully; they that by reason of their weakness can neither eat, or digest any manner of common meat, will in a short time be sensibly strengthened, if they drink a quarter of a pint of this morning and evening.

It is very good in Consumptions, and repairs the radical moisture marvellously.

A Balsom made of Bears-fat.

Take of Bears-fat a pound, distil it in a Retort, and rectifie it three or four times: to this thus rectified, put the tincture of Rosemary and Sage, made with Spirit of Wine, of each three ounces, mix them well together; in these infuse Cloves, Cinnamon, Saffron, Nutmegs, of each three drams, in warm ashes the space of a night, then strain them, and put to the Oyl four ounces of the best Wax melted, and mingled well together.

This is a most incomparable Balsom for the Gout, and Palsie.

The Oyl of Snakes and Adders.

Take Snakes, or Adders, when they are fat, which will be in *June*, or *July*; cut off their heads, and take off their skins, and unbowel them, and put them into a Glass-gourd; and pour on so much of the pure Spirit of Wine well rectified, that it may cover them four or five fingers breadth, stop the glass well, and set it in *Balneo* till all their substance be turned into an Oyl, which keep well stopt for your use.

This Oyl doth wonderful cures in recovering hearing in those that be deaf, if a few drops thereof be put warm into the Ears.

A Noble-man of *Germany*, that was famous for curing the deaf, used this as his chiefest medicine, by which they say he cured those that were born deaf.

The Quintessence of Snakes, Adders, or Vipers.

Take of the biggest and fattest Snakes, Adders or Vipers, which

which you can get in *June*, or *July*, cut off their heads, take off their skins and unbowel them, then cut them into small pieces, and put them into a Glass of a wide mouth, and set them in a warm *Balneo*, that they may be well dryed, which will be done in three or four days: then take them out, and put them into a Bolt-head, and pour on them of the best alcolized Wine as much as will cover them six or eight fingers breadth. Stop the Glass Hermetically, and digest them fifteen days in *Balneo*, or so long till the Wine be sufficiently covered, which pour forth; then pour on more of the foresaid Spirit of Wine till all the Quintessence be extracted: Then put all the tinged Spirits together: and draw off the Spirit in a gentle *Balneo*, till it be thick at the bottom; on this pour Spirit of Wine cariophyllated, and stir them well together, and digest them in a Circulatory ten dayes, then abstract the Spirit of Wine, and the quintessence remaineth at the bottom perfect.

This Quintessence is of extraordinary vertue for the purifying of the blood, flesh and skin, and consequently of all diseases therein. It cures also the Falling-sickness, and strengthens the Brain, Sight, and Hearing, and preserveth from Gray-hairs, reneweth Youth, preserveth Women from Abortion, cureth the Gout, Consumption, causeth sweat, is very good in, and against Pestilential infections.

Viper-Wine is made thus.

Take the best fat Vipers, cut off their heads, take off their skins, and unbowel them, then put them into the best Canary-Sack, four or six, according to their bigness into a gallon: Let them stand two or three months, then draw off your Wine as you drink it.

Some put them alive into the Wine, and there suffocate them, and afterwards take them out, and cut off their heads, take off their skins, and unbowel them, and then put them into the said Wine again, and do as before.

This Wine hath the same vertues as the fore-going Quintessence, it also provoketh to Venerie, and cures the Leprosie, and such-like corruption of blood.

Kunrath's famous Water, called Aqua-Magnanimicatis.

Take of Pismires, or Ants, (the biggest that have a sowerish smell, are the best) two handfuls, Spirit of Wine a Gallon; digest them in a Glass-vessel close shut, the space of a month, in which time they will be dissolved into a Liquor; then distil them in *Balneo*, till all be dry: Then put the same quantity of Ants as before, digest, and distil them in the said Liquor as before: do this three times, then aromatize the Spirit with some Cinamon.

Note, that upon the Spirit will float an Oyl, which must be separated.

This Spirit is of excellent use to stir up the Animal Spirit: in so much, that *John Caspary* Palsgrave of the *Rhene*, and *Seyfried* of *Colten*, General against the *Turks*, did alwayes drink of it when they went to fight, to increase Magnanimity and Courage, which it did even to admiration.

This Spirit doth also wonderfully irritate them that are slothful to Venery.

It also provoketh Urine even to admiration.

It doth also wonderfully irritate the Spirits that are dulled, and deaded with any cold distemper.

This Oyl doth the same effect; and indeed more powerfully.

This Oyl doth besides what is spoken of the Spirit, help deafness exceedingly, two or three drops being dropped into the Ear, after it is well syringed, once in a day, for a week together.

It helpeth also the Eyes that have any film growing on them; being now and then dropped into them.

Another Aqua-Magnanimicatis is made thus.

Take of Ants, or Pismires, a handful, of their Eggs two hundred of Millepedes, (*i.*) Woodlice one hundred, of Bees one hundred and fifty; digest all these in two pints of Spirit of Wine, being very well impregnated with the brightest Soot: Digest them toge-

together the space of a month, then pour off the clear Spirit, and keep it safe.

This Water, or Spirit, is of the same vertue as the former.

Water of Dung is made thus.

Take of any dung as much as thou pleasest, whilst it is fresh; put it into a common cold Still, and with a soft fire distil it off; it will be best if the bottom of the Still be set over a vapour, if thou wouldst have it be stronger, cohobate the said water over its feces several times: for we see there is great vertue in dung, it makes ground fertil, and many sorts thereof are very medicinable.

A Water of Doves-dung is made thus.

Take of Doves-dung dried as much as you please, to every pound put a pint of Rhenish-wine, in which let it steep all night in a gentle *Balneo*, then distil it in a Glass-gourd in ashes: Cohobate this Liquor three times; if there be any Volatile Salt, mix it with water.

This Water is very excellent against all obstructions of the Kidneys, Bladder; it helpeth the Jaundice presently, two or three Spoonfuls thereof being drank once every morning and evening.

A Water made of Horse-dung.

Take of the dung of a Horse, that is fed in the stable, as much as you please; let it stand two dayes out of the Sun, and out of the wet, to every pound of this pour a pint of White-wine, let them stand in a warm *Balneo* a fortnight; then distil them in a Glass-gourd in Sand, cohobate this three or four times; if there be any volatile Salt, mix it with the water.

This Water is very excellent against the Bastard-plurisie, Stitches, Wind, obstruction of the Reins, Bladder, very good in a Dropisie, Jaundice, Scurvy, &c. If three or four Spoonfuls be taken every morning in the Water of Juniper-berries, it also causeth sweat.

A Water smelling like Amber made by Paracelsus out of Cow-dung.

Take of Cow-dung, and distil it in *Balneo*, and the water thereof will have the smell of Amber-griele.

This water is very excellent in all inward inflammations.

An excellent Sudorifick made of the young buds of Harts-horn.

Take of the young buds of Harts-horn, whilst they are full of bloud and moist; bruise them into a paste, then mix as much Canary-wine as will make a very thin paste, distil them in ashes till they be very dry.

This is an excellent Sudorifick in all burning Feavers and Epidemical diseases; if a spoonful be taken by it self, or in any appropriated Liquor.

Oyl out of Bones, and Horns, is made thus.

Taks of what Bones you please, reduce them to a gross powder, put them into a Retort. putting a strong fire by degrees thereunto; and there will come forth an Oyl, and volatile Salt, both which thou mayst mix together, and digest them into an Essence, the Oyl being first rectified with Spirit of Wine.

The Water of Swallows against the Falling-sickness.

Take of Swallows, cut into pieces without separating any thing from them six ounces, of *Castoreum* cut small an ounce; mix them together, infuse them twelve hours in half a pint of Canary-wine, then put them into a Glass-gourd, and distil them in Sand till all be dry, then cohobate the Liquor three times.

This Water being drank to the quantity of two spoonfuls every morning, cureth them that have the Falling-sickness.

Oyl

Oyl out of Eggs is made thus.

Take of the yolks of Eggs boyled very hard, rub them in pieces with your fingers, then fry them in a pan over a gentle fire, continually stirring them with a spoon till they become red, and the Oyl be resolved, and flow from them; then put them into a hair-cloth, and so press forth the Oyl.

This Oyl cleanseth the skin from any filthiness contracted by heat; It cureth Pustules, Chaps, Excoriations, Ring-worms, but especially all burnings.

A Water of the Whites of Eggs that will cure a Wound without any visible Scar.

Take as many Eggs as you please, boyl them very hard, then cut them in the middle, and take out the yolks, filling up the cavities, with some of those whites being first bruised into a paste, then put both sides of the Eggs together as before, and tye them together with a thred, and with a string hang them in the middle of a Gourd-glass, that they touch not the sides, stop this Glas very close, and set it in *Balneo*, and you shall see those whites which were bruised drop down into a Liquor: which you must gather up out of the bottom of the Glas, and keep.

You will have very little of this Liquor.

This Liquor applyed to any green wound with a feather, cures it presently, wheresoever it be, without any visible scar. It cures most wonderfully all wounds in the Eyes.

A Water of Crabs is made thus.

Take Crabs, or Craw-fish, as many as you please, break them to pieces, then macerate them in water of Sengreen for the space of a day, then distil them, cohobate the water three times.

This Water is of singular vertue in all manner of inflammations inward and outward.

An Oyl, or Liqueur, is made out of Crabs-eyes thus.

Take of Crabs-eyes, very finely powdered, five parts; Oyl of Tartar *per Deliquium* six parts: (This Oyl of Tartar must be made of Salt of Tartar after it hath flowed in the fire;) digest them in Horse-dung the space of a month, then coagulate the Liqueur, and make an extraction with the best rectified Spirit of Wine that can be made, (or else you lose your labour) then evaporate the Spirit of Wine, and there remains an Oyl at the bottom.

This Oyl is of wonderful vertue in putrid Feavers, and such like distempers, also in all obstructions especially of the Kidneys.

Water of Spawn of Frogs is made thus.

Take of the Spawn of Frogs gathered in *March*, as much as you please, put a handful of Salt to every quart, and put them into a common cold Still, and with a gentle fire distil off the Water till no more will distil.

A compound Water of the Sperm of Frogs.

Take of the Sperm of Frogs gathered in *March*, about the new of the Moon four pound, of Cow-dung fresh six pound; mix them well together, and let them stand the space of a day, then distil them in ashes.

This Water allayes all hot pains both inward, and outward, especially of the Gout.

Another compound Water of the Sperm of Frogs.

Take of the Sperm of Frogs gathered in *March*, two pound and half, the Urine of a young man three pints, new Treacle two ounces and a half, white Vitriol, Salt, Allum, of each four ounces, then distil them, and put to the Water an ounce and half of the Salt of Vitriol, Camphire, and Saffron; of each an ounce.

This Water being applyed outwardly, helpeth all pains, especially of the Gout, and such like, also allayeth hot or cold swellings; It also stancheth bleeding.

A Mis-



A Miscellany of Spagirical Experiments, and Curiosities.

BOOK V.

The Spagirical Anatomie of Water.



Water seems to be a body so very Homogeneous, as if neither Nature or Art could discover any Heterogeneity in the parts thereof : Thus indeed it seems to the eye of the Vulgar, but to that of a Philosopher far otherwise, as I shall endeavour to make credible, by presenting to your consideration a twofold process of the discovering the dissimilary parts thereof ; whereof the one is natural only, and the other artificial ; But before I speak of either, it must be premised, that in the element of Water there is great plenty of the Spirit of the World, which is more predominant in it, than in any other element, for the use, and benefit of universal Nature ; and that this Spirit hath three distinct substances, viz. Salt, Sulphur, and Mercury. Now by Salt, we must understand a substance very dry, vital, and radical, having in it the beginning of corporification, as I may so call it : by Sulphur, a substance full of light, and vital heat,

heat, or vivifying fire, containing in it self the beginning of motion, by Mercury, a substance abounding with radical moisture, with which the Sulphur of life, or vital fire is cherish'd, and preserved. Now these substances which are in the Spirit of the World, make all Fountains, and Waters, but with some difference, according to the predominancy of either. This several predominancy therefore is ground of the variety of productions; I say, of productions, because all things are produced out of water: for Water is both the Sperm, and the *Minstrum* of the World; the former, because it includes the seed of every thing; the latter, because the Sperm of Nature is putrefied in it, that the seed included in it should be actuated, and take upon it the divers forms of things; and because, by it the seed it self, and all things produced of seed grow, and are increased: Now this being premised, I shall shew you what the natural process is, which I shall make plain by instancing in three several productions, *viz.* of the spawn of Frogs, of Stones, and of Vegetables.

The spawn of Frogs is produced after this manner; *viz.* The Sulphur, which is in the Water, being by the heat of the Sun resolved, and dissolved, is greedily, and with delight conceived by the element of water, even as the sperm of a Male is by the matrix of the Female, and that upon this account. The water wants siccity, which the sulphur hath, and therefore exceedingly desiring it, doth greedily attract it to it self: Sulphur also wants humidity, and therefore attracts the humidity of the water: Moreover the humidity of the water hath the humidity of the salt laid up occultly in it: also the Sulphur cherisheth the siccity of the fire, and desires nothing more than the humidity of the Salt, that is in the water. Sulphur also contains the siccity of the Salt, whence it is that Salt requires a siccity from the Sulphur. And thus do these attractive vertues mutually act upon each others subject. Now by this means there is a conception made in the water, which now begins to be turgid, puffed up, and troubled, as also to be grosser, and more limie, until out of the spermatick vessels the sperms be cast upward, in which sperms after a while appear black specks, which are the seed of the Frogs, and by the heat of the Sun, are in a short time turned into

into the same ; by which it appears there are dissimilary parts in water.

2. Stones are produced out of water that hath a mucilaginous Mercury, which the Salt, with which it also abounds, fixeth into stones : This you may see cleared by putting stones into water, for they will after a time contract a mucilaginous slimie matter, which being taken out of the water, and set in the Sun, becomes to be of a stony nature. And whence come those stones, gravel, and sand, which we see in springs ? They are not washed down out of the mountains and hills (as some think) from whence the waters spring, neither were they in the earth before the springs brake forth (as some imagine) and now appear by washing away of the earth from them ; for if you dig round about the springs, even beyond the heads of them, you shall find no stones at all in the earth, only in the veins thereof through which the water runs : Now the reason of the smalness of these stones is the continual motion of water, which hinders them from being united into a continued bigness. I shall make a further confirmation of this in the artificial process of manifesting the heterogeneity of water. I shall here only add the assertion of *Helmont*, saying, that with his Altahest all stones, and indeed, all things may be turned into water : If so, then you know what the Maxim is, *viz.* All things may be resolved into that from whence they had their beginning.

3. Vegetables are produced out of water, as you may clearly see by the waters sending forth plants that have no roots fixed in the bottom ; of which sort is the hearb called Duck-weed, which putteth forth a little string into the water, which is as it were the root thereof. For the confirmation of this, that this herb may be produced out of meer water, there is a Gentleman at this time in the City, of no small worth, that saith he had fair water standing in Glasse divers years, and at last a plant sprang out of it. Also if you put some plants, as Water-mint, &c. into a Glass of fair water, it will germinate, and shoot out into a great length, and also take root in the water, which root will in a short time be so increased, and extended, as to fill up the Glass : but you must remember, that you put fresh water into the Glass once in two or three days. Hereunto also, may be added the experiment

of *Helmont*, concerning the growth of a tree; For (saith he) I took two hundred pound weight of earth dried in an oven, and put it into a vessel, in which I set a Willow-tree which weighed five pound, which by the addition of water to the earth, did in five years time grow to such a bigness, as that it weighed 169. pound; at which time I also dried and weighed the earth, and within two ounces it retained its former weight. Besides, the Ancients have observed, that some hearbs have grown out of snow, being putrified: and do not we see that all Vegetables are nourished, and increased with an insipid water, for what else is their juyce? If you cut a Vine in the month of *March*, it will drop divers gallons of insipid water, which water, if it had remained in the trunk of the Vine, would in a little time have been digested into Leaves, Stalks, and Grapes, which Grapes also by a further maturation would have yielded a Wine, out of which you might have extracted a burning Spirit: Now I say, although this insipid water be by the specifical Sulphur and Salt of the Vine, fixed into the Stalks, Leaves, and Grapes of the Vine, yet these give it not a corporificative matter, for that it had before, and an aptitude and potentiality to become what afterwards it proves to be: for indeed, Stalks, Leaves, and Grapes, were potentially in it before, all which now it becomes to be actually, by vertue of the Sun, and of the aforesaid Sulphur and Salt, whereof the two latter were originally in the small seed; and therefore as I said, could not add any bulk to them.

Moreover, Do not we see, that when things are burnt and putrified, they ascend up into air by way of vapour, and fume, and then descend by way of insipid dew, or rain? Now what do all these signifie, but that from water, are all things produced, and in it are dissimilary parts?

2. The artificial process is this: Take of what water you please, whether Well-water, Fountain, River, or Rain-water, as much as you please; let it settle three or four hours, until the slime thereof separates it self: then digest it the space of a month; after which time evaporate the fourth part, by a very gentle heat, and cast it away, being but the phlegm; then distil off the remainder of the water, till the feces only be left, which feces will

will be a slimie saltish substance: This middle substance distil again as before, casting away every time the fourth part, as phlegm, and keeping the feces by themselves for further use; and this do seven times. Note, that after the fourth or fifth distillation, the water will distil over like Milk, colouring the head of your Still, so that it can hardly be washed or scoured off. This pure water after the seventh distillation will leave no feces behind: and if you digest it three months, it will be coagulated into Stones and Crystals, which some magnifie very much for the cure of inward, and outward putrefactions; out of which also may be made a dissolving Spirit. Note, that as this water stands in digestion, you may see divers curious colours. Now as for the feces, which I spake of, (which indeed, all waters, even the sweetest leave at the bottom) being as I said, a saltish slime, and in tast, as it were, a *medium* betwixt Salt, and Nitre; take them, and distil them in a Retort in Sand, and there will first come forth a white fume, which being condensed descendeth in a straight line to the bottom, next will come over a red Oyl of great efficacy, exceeding the vertues of the Spirit of Salt, or Nitre. For confirmation of part of this process, take May-dew gathered in a morning, (when it hath not rained the night before) and put it into a Glass-vessel, covered with a Parchment pricked full of holes, and set it in the heat of the Sun for the space of four months, and there will store of green feces fall to the bottom, the residue of the water being white and clear. Now by all this, you may conclude, what manner of dissimilarity there is in the parts of water. I shall add but one observation more, and so conclude this subject.

Take a flint of River-water, and put it into a Gourd-glass, pour upon it as much River-water as will fill the Glass, evaporate this water till the flint be dry, then pour on more fresh water; do this so long till the flint will fill up the Glass, (for in a little time it will fill it up, and become to be of the form or figure of the Glass) for it attracts to it self the mucilaginousness of the water, which indeed, is a slimie saltish matter, and the true matter of Stones. And thus thou shalt have that done by Art in few days, which Nature would have been perfecting many years; and indeed, just such a Flint as is produced in the Rivers. Any one that

should see this Flint in the Glass, would wonder how it should come in there. You may break your Glass, and take out your Flint.

There are divers such processes which may be used, but in effect, they demonstrate but little more concerning the potential heterogeneity of water; and therefore to avoid tediousness, I shall here end with the Anatomy of water, concerning which, if any one can make a further illustration, let him be candid and impart it, and I shall be glad to learn of him, and in the meantime, let him accept of these my endeavours.

The Spagyrical Anatomy of Wine.

I shall not speak here of the juyce of Grapes, as being naturally divided into Wine, Tartar, and Lees; but of Wine as artificially divided into pure Spirit, Phlegm, and Feces.

1. The Spirit is that hot, subtle, pure, clear, cordial, and balsamical substance which ariseth with a small heat after four or five distillations, being indeed, but the twentieth part of the Wine. This Spirit is not that inebriating substance of the Wine, as most think; for a man may drink the Spirit that is extracted out of ten pints of Wine, without distempering of his brain at all, when as perhaps, he would be distempered with drinking a pint or two of the Wine.

Now this Spirit contains in it a subtle Armoniack, and essential Sulphur inseparably conjoyned, which indeed, are the life of the Spirit, and may be separated from the Mercurial, or watery part thereof, which after separation of them, remains insipid, but yet of wonderful subtilty. They may be separated thus: First rectifie the Spirit as high as you can the ordinary way; then rectifie it once or twice in these following vessels.

Note.



Note, that if there be any flegm remaining in the Spirit, it will go no further then the middle Receiver, especially the second time. By this means thou shalt have so subtle a Spirit, that unless it be kept in a vessel close stop't it will flie away in the air. Then take of this Spirit two ounces, and pour it upon six ounces of calcined Tartar, before the salt be extracted, and mingle them well together; then distil it in *Balneo*, and there will come over an insipid water, which, as I said before, is

very subtle, then put on a like quantity of the said Spirit as before, and distil it off, and thus do so long till the water that comes over, is not insipid, but the Spirit comes over again hot as it was poured on : for by this time the fixed matter is glutted with the salt Armoniack, and sulphur of the Spirit. Then put this dryed matter into a glass sublimatory, and put fire to it, and there will sublime a salt from thence, even as Camphire is sublimed. This salt is the true essence of Wine indeed, and its virtues are wonderful, for there is no disease, whether inward or outward, that can withstand it. This is that essence of Wine of the Philosophers, which is so penetrating, a wonderful cordial, and balsamical, which if thou dost once obtain, thou shalt need but few other medicines.

Now this Spirit or *Aqua-vita* is in all Vegetables, as you may see in Malt, and Vegetables that are putrefied before they be distilled, which then yield a burning Spirit ; yet it is in Wine more than in any other Liquors ; I say Liquors, for if you take eight gallons of Sack, and as much Wheat, which is a solid body, the Wheat being malted will yield more *Aqua-vita* than the Sack.

2. The flegm is that which remains after the Spirit is distilled off, and is a putrid, insipid, cold, narcotick, and inebriating Liquor, debilitating the stomach, and offending the head. A few spoonfuls of this will presently make a man drunk, nay the flegm of half a pint of Wine will make a man drunk, when as two pints of Wine it self would hardly do it : whence you may collect what a great corrector of Malignant Spirits, and vapours the Spirit of Wine is ; which, whilst it is mixed with the flegm before distillation doth temper and correct this inebriating quality thereof, and as it doth thus, so also being given (I mean the pure dephlegmated Spirit) to them that are already inebriated, doth much allay their distemper. This flegme therefore being of so narcotick a quality is the cause of Palsies, and such like distempers.

Moreover, it is to be observed that when this flegme is distilled off, there remains at the bottom a viscous corrosive matter which, by reason of its viscosity is the cause of obstructions, and by reason of its corrosiveness the cause of the gout, colick, stone,

3. This feces being distilled, yields a sharp Spirit, and ferid Oyl, which leave behind them a saltish substance, out of which, when the Salt is extracted, there remains an insipid Earth.

Now, if any shall object against what I have asserted, and say, that *Aqua-vite*, or Spirit of Wine, are inebriating, the causes of Palsie, Gout, Stone, Colick, weak Stomachs; and such like, as we see by daily experience in those that are given to the drinking of these Liquors: to which I answer, It is true: but then I must distinguish of *Aqua-vite*, and Spirit of Wine; for there is a common *Aqua-vite*, and Spirit of Wine, of which also they make Aniseed-water, by putting a few Aniseeds thereunto, and other such like Waters, as Clove, Angelica, Lemmon, &c. With which this Nation is most abominably cheated, and their health impaired. But these are not rectified throughly, and three parts of four of them are insipid Narcotick phlegm, containing in it the feces I spake of, all which, I can in a day separate from the true pure Spirit, which Spirit rather prevents, than causes such distempers: And the truth is, all the goodness of the Wine is from this pure Spirit.

The famous Arcanum, or Restorative Medicament of Paracelsus, called his Homunculus.

First, we must understand, that there are three acceptions of the word *Homunculus* in *Paracelsus*, which are these:

1. *Homunculus* is a superstitious Image made in the place, or name of any one, that it may contain an astral and invisible man; wherefore it was made for a superstitious use.

2. *Homunculus* is taken for an artificial man, made of *Sperma humanum Masculinum*, digested into the shape of a man, and then nourished and increased with the essence of mans blood; and this is not repugnant to the possibility of Nature, and Art. But is one of the greatest wonders of God which he ever did suffer mortal man to know. I shall not here set down the full process, because I think it unfit to be done, at least to be divulged: besides, neither this, nor the former, is for my present purpose.

3. *Homunculus* is taken for an excellent *Arcanum*, or Medicament, extracted by the spagyricall Art, from the chiefest staffe of the natural life in man, and according to this acception, I shall here speak of it: But before I shew you the process, I shall give you an account why this Medicament is called *Homunculus*; and it is this.

No wise man will deny, that the staffe of life is the nutriment thereof; and that the chiefest nutriment is Bread and Wine, being ordained by God, and Nature, above all other things, for the sustentation thereof. Besides, *Paracelsus* preferred this nutriment for the generation of the blood and spirits, and the forming thence the Sperm of his *Homunculus*. Now by a sutable allusion the nutriment is taken for the life of man, and especially because it is transmuted into life: And again, the life is taken for the man; for unless a man be alive, he is not a man, but the carcase only of a man, and the basest part thereof, which cannot perfectly be taken for the whole man, as the noblest part may. In as much therefore as the nutriment, or aliment of life, may be called the life of man, and the life of man be called man; this nutriment extracted out of Bread, and Wine, and being by digestion exalted into the highest purity of a nutritive substance, and consequently becoming the life of man, being so Potentially, may Metaphorically be called *Homunculus*.

The process, which in part shall be set down allegorically, is thus. Take the best Wheat; and the best Wine, of each a like quantity, put them into a Glass, which you must Hermetically close: then let them putrefie in Horse-dung three days, or until the Wheat begin to germinate, or to sprout forth; which then must be taken forth, and bruised in a Mortar, and be pressed through a linnen cloth, and there will come forth a white juice like Milk; you must cast away the feces: Let this juyce be put into a Glass, which must not be above half full; stop it close, and set it in Horse-dung, as before, for the space of fifty dayes. If the heat be temperate, and not exceeding the natural heat of a man, the matter will be turned into a spagyricall blood, and flesh, like an Embryo. This is the principall and next matter, out of which is generated a twofold sperm, viz. of the father and mother, generating the *Homunculus*, without which,

which, there can be made no generation, whether humane, or animal.

From the bloud, and flesh of this Embryo, let the water be separated in *Balneo*, and the air in ashes, and both be kept by themselves. Then to the feces of the latter distillation, let the water of the former distillation be added; both which must (the Glass being close stoppt) putrefie in *Balneo*, the space of ten days, after this distil the water the second time, (which is then the *vehiculum* of the fire) together with the fire, in ashes; then distil off this water in a gentle *Balneo*, and in the bottom remains the fire which must be distilled in ashes. Keep both these apart. And thus you have the four Elements separated from the Chaos of the Embryo.

The feculent earth is to be reverberated in a close vessel for the space of four days: In the interim distil off the fourth part of the first distillation in *Balneo*, and cast it away; the other three parts distil in ashes, and pour it upon the reverberated earth, and distil it in a strong fire; cohobate it four times, and so you shall have a very clear water, which you must keep by it self: Then pour the air on the same earth, and distil it in a strong fire, and there will come over a clear, splendid, odoriferous water, which must be kept a part: After this, pour the fire upon the first water, and putrefie them together in *Balneo* the space of three days, then put them into a Retort, and distil them in Sand, and there will come over a water tasting of the fire: let this water be distilled in *Balneo*, and what distils off, keep by it self, as also what remains in the bottom, which is the fire, keep by it self. This last distilled water pour again upon its earth, and let them be macerated together in *Balneo* for the space of three days, and then let all the water be distilled in Sand, and let what will arise be separated in *Balneo*, and the residue remaining in the bottom be reserved with the former residue. Let the water be again poured upon the earth, be abstracted, and separated as before, until nothing remain in the bottom, which is not separated in *Balneo*. This being done, let the water which was last separated be mixed with the residue of its fire, &c be macerated in *Balneo* three or four days, and all be distilled in *Balneo*, that can ascend with that heat, and let what remains be distilled in ashes from the fire, and what shall

be elevated is aerial; and what remains in the bottom is fiery. These two last Liquors are ascribed to the two first principles, the former to Mercury, and the latter to Sulphur, and are accounted by *Paracelsus*, not as elements, but their vital parts, being, as it were, the natural Spirits and Soul, which are in them by nature. Now both are to be rectified, and reflected into their center with a circular motion, that this Mercury may be prepared with its water, being kept clear, and odoriferous in the upper place, but the Sulphur by it self. Now it remains, that we look into the third principle: let the reverberated earth, being ground upon a Marble, imbibe its own water, which did above remain, after the last separation of the Liquors made in *Balneo*, so that this be the fourth part of the weight of its earth, and be congealed by the heat of ashes into its earth, and let this be done so oft, the proportion being observed, until the earth hath drunk up all its water. And lastly, let this earth be sublimed into a white powder, as white as snow, the feces being cast away. This earth being sublimed, and freed from its obscurity is the true Chaos of the Elements, for it contains those things occult, seeing it is the Salt of Nature, in which they lye hid, being, as it were, reflexed in their center. This is the third principle of *Paracelsus*, and the Salt, which is the matrix, in which the two former sperms, viz. Of the man, and woman, the Parents of the *Homunculus*, viz. of Mercury, and Sulphur are to be put, and to be closed up together in a glazen womb, sealed with *Hermes* seals for the true generation of the *Homunculus* produced from the spagyricall Embryo: and this is the *Homunculus*, or great *Arcanum*, otherwise called the nutritive Medicament of *Paracelsus*.

This *Homunculus*, or nutritive Medicament is of such vertue, that presently after it is taken into the body it is turned into blood, and spirits. If then diseases prove mortal, because they destroy the Spirits, what mortal disease can withstand such a medicine, that doth so soon repair, and so strongly fortifie the spirits, as this *Homunculus*, being as the Oyl to the flame, into which it is immediately turned, thereby renewing the same. By this Medicament therefore, as diseases are overcome, and expelled, so also youth is renewed, and gray hairs prevented.

An artificial way to make Flesh.

Take of the Crums of the best Wheaten-bread as soon as it comes forth out of the Oven, being very hot, as much as you please; put it into a Glass-vessel, which you must presently Hermetically close. Then set it in digestion in a temperate *Balneo* the space of two months, and it will be turned into a fibrous flesh.

If any Artist please to exalt it to a higher perfection, according to the rules of Art, he may find out, how great a nourisher and restorative Wheat is, and what an excellent medicine it may make.

Note, that there must be no other moisture put into the Glass, besides what is in the bread it self.

Paracelsus his way for the raising of a dead Bird to life, and for the generating many Serpents of one, both which are performed by putrefaction.

A Bird is restored to life thus, *viz.* Take a Bird, put it alive into a Gourd-glass, and seal it up Hermetically; burn it to ashes in the third degree of fire, then putrefie it in Horse-dung into a mucilaginous phlegm, and so by a continued digestion, that phlegm must be brought to a further maturity (being taken out, and put into an oval vessel of a just bigness to hold it) by an exact digestion, and will so become a renewed Bird: which saith *Paracelsus* is one of the greatest wonders in Nature, and shews the great vertue of putrefaction.

2. Cut a Serpent into small pieces, which put into a Gourd-glass, which you must Hermetically seal up, then putrefie them in Horse-dung, and the whole Serpent will become living again in the Glass, in the form either of worms, or Spawn of Fishes; Now if these worms be in a fitting manner brought but of putrefaction, and nourished; many hundred Serpents will be bred out of one Serpent, whereof every one will be as big as the first. And as it is said of the Serpent, so also many other living creatures may be raised, and restored again.

To make an artificial Mallago-Wine.

First take a Wine-barrel well hooped, and dressed, with one end being open, to which a close cover must be well fitted, which must be to take off and put on at pleasure. Set it in a warm place Winter or Summer, and fill it full with clear and pure water, to each three gallons, put six pound of the best Mallago Raisins, which you must bruise in a Stone-mortar, and then strow upon the water; upon each twenty Gallons of which, you must cast a handful of Calx-vive, then cover the vessel close with the cover, and cast clothes upon it to keep it warm, and let it stand four or five days to work as Wine or Beer do, when they be new; then see if the Raisins be risen up to the top of the water; if so, then put them down again, and cover it again as before; let them thus stand three weeks or a month together, the Raisins being every fourth or fifth day put down in case they rise up. Then put a tap into the vessel three or four fingers above the bottom, and try if it be good, and tast like Wine; if not, let it stand a while longer; but if so, draw it off into another Wine-vessel, and to every twenty gallons that you have drawn off, put a pint of the best *Aqua-vita*, two new laid Hens-eggs, and a quart of Alligant beaten well together, and let it stand in a cellar, as other Wine doth, till it be clear and fit to be drunk.

To make an artificial Claret-Wine.

Take six gallons of water, two gallons of the best Cidar, put thereunto eight pound of the best Mallago-Raisins bruised in a Mortar; let them stand close covered in a warm place the space of a fortnight, every two days stirring them well together; then press out the Raisins and put the liquor into the said vessel again, to which add a quart of the juyce of Rasp-berries, and a pint of the juyce of Black-cherries, cover this Liquor with Bread spread thick with strong Mustard, the Mustard-side being downward, and so let it work by the fire-side three or four days; then run it up, and let it stand a week, and then bottle it up. And it will taste as quick as bottle Beer, and indeed, become a very pleasant drink,
and

and indeed far better, and wholesomer than our common Claret.

An artificial Malmsey.

Take two gallons of English Honey, put it into eight gallons of the best Spring-water, set these in a vessel over a gentle fire, when they have boyled gently an hour, take them off, and when they be cold, put them into a small Barrel, or Runler, hanging in the vessel a bag of Spices, and set it in the Cellar, and in half a year you may drink thereof.

To make an excellent aromaticall Hypocras.

Take of Cinnamon two ounces, Ginger an ounce, Cloves and Nutmegs, of each two drams, of white Pepper half a dram, of Cardamums two drams, of Musk-Mallow-seed, three ounces. Let all these be bruised, and put into a bag, and hanged in six gallons of Wine. Note, that you must put a weight in the bag to make it sink.

Some boyl these Spices in Wine, which they then sweeten with Sugar, and then let run through a Hypocras-bag, and afterwards bottle it up, and use when they please.

A single Hypocras-bag, or Manica Hippocratis.



When you would have this or any other Liquor to be very clear, you may use the triple Hypocras bag, for what feces passeth the first will stay in the second, and what in the second will stay in the last.

Note that these bags must be made of white Cotton.

A triple Hypocras bag is only one hanging above another after this manner.



To make excellent Hypocras Wine in an instant.

Take of Cinnamon two ounces, Nutmegs, Ginger, of each half an ounce, Cloves two drams, bruise these small, then mix them with as much Spirit of Wine as will make them into a paste, let them stand close covered in a glass the space of six dayes in a cold place, then press out the Liquor, and keep it in a glass.

A few drops of this Liquor put into any Wine giveth it a gallant relish, and odour, and maketh it as good as any Hypocras whatsoever, and that in an instant.

Note, that if the Wine be of it self harsh, it will not be amiss to sweeten it with Sugar, for thereby it is made farr more grateful.

This

This also being put into Beer will make it very pleasant, and aromatical.

Another Way to make Hypocras, or to make any Wine to tast of any vegetable in an instant.

Take what Wine you please, and according as you would have it tast of this or that spice, or any other vegetable, of one or more together, you may drop a few drops of the distilled Oil of the said spices, or vegetables into the Wine, and brew them well together, and you may make in an instant all sorts of Hypocras or other Wines: as for example, if you would have Wormwood Wine, two or three drops of Oyl of Wormwood put into good Rhenish-wine, being well brewed together, will make a Wormwood Wine exceeding any that you shall meet withal in the Rhenish-wine houses.

To make good Raspberry-wine.

Take a gallon of Sack, in which let two gallons of Raspberries stand sleeping the space of twenty four hours, then strain them, and put to the Liquor three pound of Raisins of the sun stoned; let them stand together four or five dayes, being sometimes stirred together: Then pour off the clearest, and put it up in bottles, and set it in a cold place. If it be not sweet enough, you may add some Sugar to it.

Two other wayes to make it all the year at an instant.

Take of the juice of Raspberries, put it into a bottle, which you must stop close, and set in a cellar, and it will become clear, and keep all the year, and become very fragrant.

A few spoonfulls of this put into a pint of Wine sweetned well with Sugar gives it an excellent and full tast of the Raspes.

If you put two or three ounces of the Syrup of Raspes to a pint of Wine it will do as well, but then you need use no other sugar, for that will sweeten it sufficiently.

To make Mead or Methaglin that it shall tast stale, and quick, within a fortnight, and be fit to drink.

To every three gallons of water, put one gallon of the purest Honey, put what hearbs and spices you please, boyl it, and skim it well, now and then putting in some water: When it is sufficiently boyled, take it off, and when it is almost cold, put it into a wooden vessel, and set it by the fire side, cover it over with Breadspread thick with the strongest Mustard, the Mustard side being downwards, and so let it stand three dayes, and it will work, only put a cloth over it: Then tun it up, and after a week, draw it forth into bottles, and set it into a cellar; and after a week more you may drink of it, for it will tast as quick as bottle beer that is a fortnight old, and indeed as stale as other Mead will in half a year.

To make a Spirit of Amber-griese, that a few drops thereof shall perfume a pint of Wine most richly.

Take of Amber-griese two drams, of Musk a dram, cut them small, and put them into a pint of the best rectified Spirit of Wine, close up the glass Hermetically, and digest them in a very gentle heat till you perceive they are dissolved: Then you may make use of it.

Two or three drops or more if you please of this Spirit, put into a pint of Wine, give it a rich odour.

Or if you put two or three drops round the brims of the glass, it will do as well.

Half a Spoonful of it taken either of it self, or mixed with some specifical Liquor, is a most rich Cordial.

An excellent sweet Water.

Take a quart of Orange-flower Water, as much Rose-water, add thereto of Musk willowseeds grossely bruised four ounces, of Benjamin two ounces, of Storax an ounce, of Labdanum six drams, of Lavender flowers two pugils, of sweet Majoram

as much, of *Calamus Aromaticus* a dram, distil all these in a Glass-Still in *Balneo*, the vessels being very well closed, that no vapour breath forth.

Note, that you may make a sweet Water in an instant by putting a few drops of some distilled Oyls together into some Rose-water, and brewing them well together.

To purifie and to give an excellent smell, and tast unto Oyl-Olive, that they that loath it, may delight to eat it.

Take of a good sort of Oyl-Olive, though not of the best, put the same into a vessel of earth or copper, that hath a little hole in the bottom thereof, which you may stop with wax or a cork, to open at your pleasure. In this vessel for every quart of Oyl add four quarts of fair water, and with a wooden-spatle, or spoon, beat them well together for a quarter of an hours space; and when you have so done, open the hole in the bottom, and let out the water, for the Oyl doth naturally fleet above, as being the lighter body: and as soon as the water is passed away, stop the hole, and put in other cold water, and begin a new agitation as before, and work in the like manner divers times as you did at the first, till in the end the Oyl be well cleansed, and clarified. If the last time you work it with Rose-water it will be so much the better; then hang in the midst of the Oyl a course bag full of Nutmegs sliced, and Cloves bruised, and the rinds of Orengees and Lemons cut small, and set the vessel in *Balneo* for two or three hours, and I suppose he that loaths Oyl will be easily by this means drawn to a liking of it.

Another Way.

Set Oyl-Olive in the sun in summer-time until there settle good store of foul, and gross Lees, from the which by declination pour out the clear Oyl, and keep it till the next winter, and after the same hath been congealed with some frosty weather, the Oyl will be most sweet, and delectable to the tast.

After this manner you may clarify all thick Oyls, and all kinds of grease, but then you must use warm water in stead of cold.

To purifie Butter that it shall keep fresh and sweet a long time, and be most wonderful sweet in tast.

Dissolve Butter in a clean glazed or silver vessel, and in a pan or kettle of water, with a slow and gentle fire; then pour the same so dissolved, into a bason that hath some fair water therein, and when it is cold, take away the curds, and the whey that remain in the bottom. And if you will be at the charge thereof, you may the second time (for it must be twice dissolved) dissolve the Butter in Rose-water, working them well together: the Butter thus clarified will be as sweet in tast as the marrow of any beast, by reason of the great impurity that is removed by this manner of handling, the first part thereof being dross, which makes the Butter many times offensive to the stomach.

To make Butter tast of any vegetable without altering the colour thereof.

When the Butter is taken out of the chern, and well worked from the serous part thereof, mix with the said Butter as much of the Oyl of that Vegetable which you like best, till the same be strong enough in tast to your liking, then temper them well together.

If you do in the moneth of May mix some Oyl of Sage with your Butter it may excuse you from eating Sage with your butter.

If you mix the Oyl with the aforesaid clarified Butter, it will be far better, and serve for a most dainty dish, and indeed a great rarity.

To make Cheese tast strong of any vegetable without discolouring of it.

You may mix the distilled Oyl of what vegetable you would have the Cheese taste of, with the curd, before the whey be pressed out; but be sure you mix them very well, that all places may taste alike of it; you may make it taste stronger or weaker of it, as you please, by putting in more or less of the Oyl.

To purifie and refine Sugar.

Make a strong *Lixivium* of Calx vive, wherein dissolve as much coarse Sugar as the *Lixivium* will bear, then put in the White of Eggs (two to every quart of the Liquor) being beaten into an Oyl, Stir them well together, and let them boyl a little, and there will arise a scum, which must be taken off as long as any will arise; then pour all the Liquor through a great Woollen cloth bag, and so the feces will remain behind in the bag; then boyl the Liquor again so long, till some drops of it being put upon a cold plate, will when they be cold, be congealed as hard as Salt. Then pour out the Liquor into pots, or moulds made for that purpose, having a hole in the narrower end thereof, which must be stopped for one night after, and after that night be opened, and there will a moist substance drop forth, which is called Molosses, or Treacle; then with Potters-Clay cover the ends of the Pot, and as that clay sinketh down by reason of the sinking of the Sugar, fill them up with more clay, repeating the doing thereof till the Sugar shrink no more. Then take it out till it be hard, and dried, then bind it up in Papers.

To make a Vegetable grow and become more glorious than any of its species.

Reduce any Vegetable into its three first principles, and then joyn them together again, being well purified, and put the same into a rich earth, and you shall have it produce a Vegetable far more glorious than any of its species.

Now how to make such an Essence, look into the first Book, and there you shall see the process thereof.

To make a Plant grow in two or three hours.

Take the ashes of Moss, moisten them with the juyce of an old dunghil, being first pressed forth, and streined; then dry them a little, and moisten them as before: do this four or five times; put this mixture, being neither very dry, nor very moist, into some earthen, or metalline vessel; and in it set the seeds of Lettice, Purslain, or Parsly, (because they will grow sooner than other Plants) being first impregnated with the Essence of a vegetable of its own species, (the process whereof you shall find Book 1. page 32, 33.) till they begin to sprout forth; then, I say, put them in the said earth with that end upwards which sprouts forth: Then put the vessel into a gentle heat, and when it begins to dry, moisten it with some of the said juyce of dung.

Thou maist by this means have a Sallet grow whilest supper is making ready.

To make the Idea of any Plant appear in a Glass, as if the very Plant it self were there.

The process of this thou maist see, page 32. and therefore I need not here again repeat it; only remember, that if you put the flame of a Candle to the bottom of the Glass, where the Essence is, by which it may be made hot, you will see, that this substance, which is like impalpable Ashes, or Salt, send forth from the bottom of the Glass, the manifest form of a Vegetable, vegetating and growing by little and little, and putting on so fully the form of stalks, leaves, and flowers, in such perfect, and natural wise in apparent shew, that any one would believe verily the same to be naturally corporal, when as in truth it is the spiritual Idea, endued with a spiritual Essence; which serveth for no other purpose, but to be matched with its fitting earth, that so it may take unto it self a more solid body. This shadowed figure, as soon as the Vessel is taken from the fire, returns

to its Ashes again, and vanisheth away, becoming a Chaos, and confused matter.

To make Firre-trees appear in Turpentine.

Take as much Turpentine as you please, put it into a Retort, distil it by degrees, when all is distilled off, keep the Retort still in a reasonable heat, that what humidity is still remaining may be evaporated, and it become dry: Then take this off from the fire, and hold your hand to the bottom of the Retort, and the Turpentine that is dried (which is called *Colophonia*) will crack asunder in several places, and in those cracks, or chaps, you shall see the perfect effigies of Firre-trees which will there continue many months.

To make Harts-born seemingly to grow in a Glass.

Take Harts-horn broken into small pieces, and put them into a Glass-Retort to be distilled, and you shall see the Glass to be seemingly full of Horns, which will continue there so long till the volatile Salt come over.

To make Golden Mountains, as it were, appear in a Glass.

Take of Adders Eggs half a pound, put them into a Glass-Retort, distil them by degrees; when all is dry, you shall see the feces at the bottom turgid, and puffed up, and seem to be, as it were, Golden Mountains, being very glorious to behold.

To make the representation of the whole World in a Glass.

Take of the purest Salt-Nitre as much as you please, of Tin half so much; mix them together, and calcine them Hermetically; then put them into a Retort, to which annex a Glass-Receiver, and lute them well together, let there be leaves of Gold put into the bottom thereof, then put fire to the Retort, until vapours arise that will cleave to the Gold: augment the fire till no more fumes ascend: then take away

the Receiver, and close it Hermetically, and make a Lamp-fire under it, and you will see represented in it the Sun, Moon, Starrs, Fountains, Flowers, Trees, Fruits, and indeed, even all things, which is a glorious sight to behold.

To make the four Elements appear in a Glass.

Take of the subtle powder of Jeat, an ounce and half of the Oyl of Tartar made *per deliquium* (in which there is not one drop of water, besides what the Tarter it self contracted) two ounces, which you must colour with a light green with Verdegrease, of the purest Spirit of Wine tinged with a light blew with Indico, two ounces of the best rectified Spirit of Turpentine coloured with a light red with Madder 2. ounces. Put all these into a Glass, and shake them together, and you shall see the Jeat which is heavy and black, fall to the bottom and represent the earth; next the Oyl of Tartar made green, representing the element of water, falls: upon that swims the blew Spirit of Wine which will not mix with the Oyl of Tartar, and represents the Element of Air: uppermost will swim the subtle red Oyl of Turpentine, which represents the Element of Fire.

It is strange to see, how after shaking all these together, they will be distinctly separated the one from the other. If it be well done, as it is easie enough to do: it is a most glorious sight.

To make a perpetual motion in a Glass.

Take seven ounces of Quicksilver, as much Tin, grind them well together with fourteen ounces of Sublimare, dissolved in a cellar upon a Marble the space of four days, and it will become like Oyl-Olive, which distil in Sand, and there will sublime a dry substance; then put the water which distils off, back upon the earth in the bottom of the Still, and dissolve what you can; filter it, and distil it again, and this do four or five times; and then that earth will be so subtle; that being put into a Viol, the subtle atoms thereof will move up and down for ever.

Note, that the Viol, or Glass, must be close stopr, and kept in a dry place.

To make a Luminous Water that shall give light by night.

Take the tails of Glo-worms, put them into a Glass-Still, and distil them in *Balneo*; pour the said water upon more fresh tails of Glo-worms; do this four or five times, and thou shalt have a most Luminous Water, by which thou maist see to read in the darkest night.

See
Brown
on Vulgar
Errors,

Some say this Water may be made of the skins of Herrings; and for ought I know, it may be probable enough: for I have heard, that a shole of Herrings coming by a Ship in the night, have given a great light to all the Ship.

B. 3. chap.
27. § 12.

It were worth the while, to know the true reason, why Glo-worms, and Herring, and some other such like things, should be luminous in the night.

To make a vapour in a chamber, that he that enters into it with a candle, shall think the room to be on fire.

Dissolve Camphire in rectified *Aqua-vita*, and evaporate them in a very close chamber, where no air can get in, and he that first enters the chamber with a lighted candle will be much astonished, for the chamber will seem to be full of fire, very subtle, but it will be of little continuance.

You must note, that it is the combustible vapour, with which the chamber is filled, that takes flame from the candle.

Divers such like experiments as this may be done, by putting such a combustible vapour into a Box, or Cubboard, or such like, which will as soon as any one shall open them, having a candle in his hand, take fire, and burn.

To make Powder that by spitting upon shall be inflamed.

Take a Load-stone, powder it, and put it into a strong calcining pot, cover it all over with a powder made of Calx-vive, and Colophonia, of each a like quantity; put also some of this Powder under it: when the Pot is full, cover it, and lute the closures with Potters-earth, put them into a Furnace, and there let them boyl,

boyl ; then take them out and put them into another pot , and set them in the Furnace again, and this do till they become a very white and dry Calx. Take of this Calx one part, of Salt-Nitre, being very well purified, four parts, and as much Camphire, Sulphur-vivum, the Oyl of Turpentine, and Tartar ; grind all these to a subtle powder, and searse them, and put them into a Glass-vessel ; then put as much Spirit of Wine well rectified, as will cover them two fingers breadth ; then close them up , and set the vessel in Horse-dung three months, and in that time they will all become an uniform paste : evaporate all the humidity, until the whole mass become a very dry stone : then take it out and powder it, and keep it very dry.

If you take a little of this Powder, and spit upon it , or pour some water upon it, it will take fire presently, so that thou maist light a match, or any such thing by it.

To fertifie a Load-stone, that it shall be able to draw a Nail out of a piece of Wood.

Take a Load-stone, and heat it very hot in coals, but so, that it be not fired, then presently quench it in the Oyl of *Crocus Martis* made of the best Steel , that it may imbibe as much as it can.

Thou shalt by this means make the Load-stone so very strong and powerful, that thou maist pull out nails out of a piece of wood with it, and do so wonderful things with it , that the common Load-stone can never do.

Now the reason of this (as *Paracelsus* saith) is, because the Spirit of Iron is the life of the Load-stone, and this may be extracted from, or increased in the Load-stone.

To make Quick-silver Malleable in seven hours.

Take of the best Lead , and melt it, and pour it into a hole, and when it is almost congealed, make a hole in it, and presently fill up the hole with Quick-silver, and it will presently be congealated into a friable substance ; then beat it into a powder, and put it again into a hole of fresh melted Lead, as before ; do this

this three or four times, then boyl it, being all in a piece in Lin seed-Oyl the space of six hours; then take it out and it will be come malleable.

Note, that after this, it may by being melted over the fire be reduced into Quick-silver again.

A thin plate of the said Mercury laid upon an inveterate Ulcer, takes away the malignity of it in a great measure, and renders it more curable than before.

A plate of the said Mercury laid upon tumors, would be a great deal better repercussive than plates of Lead, which Chirurgeons use in such cases.

The powder of the friable substance of Mercury before it be boyled in the Oyl, is very good to be strewed upon old ulcers, for it doth much correct the virulency of them.

To reduce Glass into its first Principles, viz. Sand, and Salt.

Take bits, or powder of Glass, as much as you please, as much of the Salt which Glass-men use in the making of Glasses: melt these together in a strong fire; Then dissolve all the melted mass in warm water; then pour off the water, and you shall see no Glass, but only Sand in the bottom, which Sand is that which was in the Glass before.

This confutes the vulgar opinion, viz. that the fusion of Glass is the last fusion, and beyond all reduction.

To Write or engrave upon an Egge, or Pibble, with Wax, or Grease.

Make what letters or figures you please with Wax, or Grease, upon an Egge; or Pibble; put them into the strongest Spirit of Vinegar, and there let them lye two or three days, and you shall see every place about the letters, or figures, eaten or consumed away with the same Spirit, but the place where the Wax or Grease was, not at all touched: the reason whereof is, because that the Spirit would not operate upon the said oleaginous matter.

To make artificial Pearl, as glorious as any Oriental.

Dissolve Mother of Pearl in Spirit of Vinegar; then precipitate it with Oyl of Sulphur *per campanam*, (and not with Oyl of Tattar; for that takes away the splendour of it) which adds a lustre to it: when it is thus precipitated, dry it, and mix it with whites of Eggs, and of this mass you may make Pearls of what bigness or fashion you please: before they be dryed they will not at all, or very hardly be discerned from true and natural Pearls.

To make a Mineral Perfume.

Dissolve Antimony, or Sulphur, in the Liquor or Oyl of Flints, or Pebles, or Crystals, or Sand; coagulate the solution into a red mass, pour thereon the Spirit of Urine, and digest them till the Spirit be tinged; then pour it off, and pour more on, till all the tincture be extracted; put all the tinctures together, and evaporate the Spirit of Urine in *Balneo*, and there will remain a bloud-red Liquor at the bottom, upon which pour Spirit of Wine, and you shall extract a purer tincture, which smelleth like Garlick; digest it three or four weeks, and it will smell like Balm; digest it longer, and it will smell like Musk, or Amber-griese.

Besides the smell that it hath, it is an excellent Sudorifick, and cures all diseases that require sweat; as the Plague, putrid Feavers, *Lues-venerea*, and such like as these.

The Oyl or Liquor of Sand, Flints, Pebles, or Crystals, for the aforesaid preparation is thus made.

Take of the best Salt of Tartar being very well, by two or three dissolutions, and coagulations, purified, and powdered in a hot Mortar, one part; of Flints, Pebles, or Crystals, being powdered, or small Sand well washed, the fourth part; mingle them well together; put as much of this composition as will fill an Egge-shell, into a Crucible, set in the earthen Furnace, (expressed

pressed page 84.) and made red hot, and presently there will come over a thick and white Spirit, this do till you have enough; then take out the Crucible whilest it is growing hot, and that which is in it is like transparent Glass, which keep from the air.

The Spirit may be rectified by Sand in a Glass-Retort.

The Spirit is of excellent use in the Gour, Stone, Pitsick, and indeed, in all obstructions, provoketh Sweat, and Urine, and cleanseth the Stomach, and by consequence effectual in most diseases.

It being applyd externally, cleareth the skin, and makes it look very fair.

Take that which remains at the bottom in the Crucible, and beat it to powder, and lay it in a moist place, and so it dissolveth into a thick fat Oyl: And this is that which is called the Oyl of Sand, of Flints, Pebles, or Crystals.

This Oyl is of wonderful use in medicine, as also in the preparation of all sorts of Minerals.

This Oyl being taken inwardly in some appropriated Liquor, dissolves tartarous coagulations in the body, and so opens all obstructions.

It precipitates metals, and makes the Calx thereof more weighty than Oyl of Tartar doth.

It is of a golden nature; it extracts colours from all metals, is fixed in all fires, maketh fine Crystals, and Borax, and maturifieth imperfect metals into Gold.

If you put it into water, there will precipitate a most fine white earth, of which you may make as clear vessels as are China-dishes.

Note, that all Sand, Flints, and Pebles, even the whitest have in them a golden Sulphur, or Tincture; and if a prepared Lead be for a time digested in this Oyl, it will seem, as it were, gilded, because of the Gold that will hang upon it, which may be washed away in water. Gold also is found in Sand and Flints, &c. And if you put Gold into this Oyl, it will become more ponderous thereby.

To make Steel grow in a Glass like a Tree.

Dissolve Steel in a rectified Spirit of Salt, so shall you have a green and sweet solution, which smells like Brimstone, filter it, and abstract all the moisture in the Sand with a gentle heat, and there will distil over a Liquor as sweet as Rain-water (for Steel by reason of its dryness detains the corrosiveness of the Spirit of Salt; which remaineth in the bottom like a bloud red mass, which as hot on the tongue as fire, dissolve this red mass in Oil of Flints, or of Sand, and you shall see it grow up in two or three hours, like a Tree with a stem, and branches; prove this Tree at the rest, and it yieldeth good Gold, which this Tree hath drawn from the aforesaid Oyl of Sand, or Flints, which hath a golden Sulphur in it.

To melt a metal in ones hand without burning of the hand.

Take a little Calcining-Pot in your hand, make it in a lane or course of the powder of any metal, then upon it lay a lane of Sulphur, Salt-peter and Saw-dust, of each a like quantity, mixed together; put a coal of fire to it, and forthwith the metal will be melted into a mass.

An observation upon the beams of the Sun, and heat of the fire, how they add weight to Minerals, and Metalline Bodies.

1. Take any Mineral Liquor, and set it in an open vessel in the Sun for a good space, and it will be augmented in quantity, and weight. But some will say, that this proceedeth from the air, to the which I answer, and demand; whether the air had not this impregnation from the Sun, and what the air hath in it self, that proceedeth not from the Sun and Stars.

2. Put this liquor in a cold cellar, or in a moist air, and you shall find that it increaseth not in weight, as it doth in the Sun, or in the fire, (which hath in this respect some Analogie with the Sun) I do not say, but haply it might attract some little moisture which is soon exhaled by any small heat.

3. Dissolve

3. Dissolve any sulphureous, and imperfect metal, as Iron, Copper, or Zink, in *Aqua-fortis*, or any other acid Spirit; then abstract the Spirit from it, make it glowing hot, yet not too hot, that the Spirit may only vapour away; then weigh this metalline Calx, and set it in a crucible over the fire, but melt it not, only let it darkly glow, let it stand so three or four weeks, then take it off, and weigh it again, and you shall find it heavier than before.

4. Set any sulphureous metal, as Iron, or Copper, with sixteen or eighteen parts of Lead on a rest made with ashes of Wood, or Bones, in a probatory Furnace: First weigh the Test, Copper, and Lead, before you put them into the Furnace; let the Iron or Copper fly away with the Lead, yet not with too strong a heat; then take the Test out, and weigh it, and you shall find it (though the metals be gone) when it is cold to be heavier than it was when it was put into the Furnace with the metals. The question is now, whence this heaviness of all the aforesaid Minerals and Metals proceeded, if that the heat of the Sun, and fire through the help of the Minerals and Metals be not fixed into a palpable Mineral, and Metalline Body?

5. Set a Test with Lead, or Copper in the Sun, and with a concave Glass unite the Beams of the Sun, and let them fall on the center of the Metal; hold the concave Glass in your hand, and let your Test never be cold; and this will be as well done in the Sun, as in the Fire. But this concave must be two foot in Diameter, and not too hollow or deep, but about the eighteenth or twentieth part of the circle, that it may the better cast its beams forth; and it must be very well polished.

6. Calcine Antimony with a Burning-Glass, and you shall see it smok, and fume, and be made dryer than before; yet weigh it and it will be heavier than before.

I shall take in, for the confirmation of all this; a relation of Sir *Kenelm Digby* concerning the precipitating of the Sun-beams. I remember (saith he) a rare experiment that a noble man of much sincerity, and a singular friend of mine told me he had seen, which was, that by means of Glasses made in a ve-

ry particular manner, and artificially placed one by another, he had seen the Sun-beams gathered together; and precipitated down into a brownish, or purplish red powder. There (saith he) could be no fallacy in this operation: For nothing whatsoever, was in the Glass, when they were placed; and disposed for this intent; and it must be in the hot time of the year, else the effect would not follow. And of this magistery he could gather some dayes neer two ounces in a day, and it was of a strong volatile vertue, and would impress its spiritual quality into Gold it self (the heaviest and most fixed body we converse withal) in a very short time.

I leave it now to the Reader to judge whether the beams of the Sun, and heat of the fire adde weight to Minerals, and Metals.

To extract a white Milkie substance from the raies of the Moon.

Take a Concave-Glass, and hold it against the Moon when she is at the full in a clear evening, and let the raies thereof, being united, fall upon a Sponge, and the Sponge will be full of a cold Milkie substance, which you may press out with your hand, and gather more. *De-La-Brofs* is of opinion, that this substance is of the substance of the Moon: but I cannot assent to him in that; only this I say, if this experiment were well prosecuted, it might produce, for ought I know, such a discovery which might be the key to no small secrets.

To condense the Air in the heat of Summer, and in the heat of the day, into Water.

Fill an earthen Vessel unglazed, made pointed downward, and fill it with Snow-water, (which must be kept all the year) in which is dissolved as much Nitre as the water would dissolve: Let the Vessel be close stopd. Hold this Vessel against the Sun, and the Air will be so condensed by the coldness of the Vessel, that it will drop down by the sides thereof.

*How two sorts of Volatile Salts will be fixed by
joyning them together.*

Take a strong *Lixivium* made of unslaked lime, and evaporate it, and whereas you would expect to find a Salt at the bottom, there is none; for all the Salt in the *Lixivium* is evaporated away, and the more the liquor is evaporated, the weaker the *Lixivium* becomes, which is contrary to other *Lixiviums*: Also if you take Spirit of Vinegar, and evaporate it, you shall find no Salt at the bottom. Now, if you take the clear *Lixivium* of Lime, and Spirit of Vinegar, of each a like quantity, mix them together, and evaporate the humidity thereof, you shall find a good quantity of Salt at the bottom, which tastes partly hot, and partly acid.

This Salt being set in a cold cellar on a Marble-stone, and dissolved into an Oyl, is as good as any *Lac-virginis* to clear, and smooth the face, and dry up any hot pustules in the skin, as also against the Itch, and old Ulcers to dry them up.

To make an unguent that a few grains thereof being applyed outwardly, will cause vomiting or looseness, as you please.

Take *Lapis infernalis*, mix therewith of distilled Oyl of Tobacco, as much as will make an Ointment: Keep it in a dry place.

If you would provoke vomiting, anoint the pit of the stomach with five or six grains thereof, and the party will presently vomit, and as much as with taking of a vomit.

If you would provoke to looseness, anoint about the navel therewith, and the Patient will presently fall into a looseness.

Note, that you must give the Patient some warm suppings all the time this medicine is working.

Note also, and that especially, that you let not the Ointment lye so long as to cauterize the part to which it is applyed.

To make a medicine that half a grain thereof being taken every morning, will keep the body soluble.

Take of the distilled Oyl of Tobacco, of which let the essential salt of Tobacco imbibe as much as it can; Then with this composition make some Lozenges, by adding such things as are fitting for such a form of medicine; Note, that you put but such a quantity of this Oily salt, as half a grain only may be in one Lozenge.

One of these Lozenges being taken every morning, or every other morning, keepeth the body soluble, and is good for them as are apt to be very costive in their bodies.

Note, that you may put some aromatical ingredient into the Lozenges that may qualifie the offensive odour of the Oyl, if there shall be any.

To make a Cordial, stomachical, and purgative tincture.

Make a tincture of *Hiera picra* with Spirit of Wine well rectified, and aromatized with Cinamon or Cloves.

Two or three spoonfuls of this tincture being taken in a morning twice in a week wonderfully helps those that have weak and foul stomachs, it openeth obstructions, and purgeth viscosities of the stomach and bowels, cureth all inveterate head-ach, killeth worms, and indeed leaveth no impurities in the body, and is very Cordial: for it exceedingly helps them that are troubled with faintings. There is nothing offensive in this medicine but the bitterness thereof, which the other extraordinary vertues will more then ballance.

Its application.

Another.

Dissolve Scammony in Spirit of Wine, evaporate the one moiety; then precipitate it by putting Rose-water to it; and it will become most white, for the black and fetid matter will lie

on

on the top of the precipitated matter which you must wash away with Rose-water. Then take that white gum being very well washed, and dry it (if you please you may powder it and so use it, for indeed it hath neither smell nor taste, and purgeth without any offence, and may be given to children, or to any that distast physick, in their milk or broth without any discerning of it, and indeed it doth purge without any manner of gripings. I was wont to make it up into pills with Oyl of Cinamon or Cloves, which gave it a gallant smell, and of which I gave a scruple, which wrought moderately and without any manner of gripings.) then dissolve it again in Spirit of Wine, being aromatized with what spices you please, and this keep.

This tincture is so pleasant, so gentle, so noble, a purgative, that there is scarce the like in the World, for it purgeth without any offence, is taken without any nauseating, and purgeth all manner of humours, especially choler, and melancholy, and is very Cordial.

It may be given to those that abhor any medicine, as to children, or those that are of a nauseous stomach.

The dose is from half a spoonful to two or three.

Note, it must be taken of it self, for if it be put into any other Liquor, the Scammony will precipitate and fall to the bottom.

After this manner you may prepare Jollap by extracting the gumme therefore, and then dissolving it in Spirit of Wine.

By this means Jollap would not be so offensive to the stomach, as usually it is, for it is the gumme that is purgative, and the earthliness that is so nauseous.

Jollap being thus prepared, is a most excellent medicine against all hydropick diseases, for it purgeth water away without any nauseousness or griping at all.

To reduce distilled Turpentine into its body again.

Take the Oyl of Turpentine, and the Colophonia thereof (which is that substance which remains in the bottom after distillation), which you must beat to powder. Mix these together and digest them, and you shall have a Turpentine of the same consistency as before, but of a fiery subtle nature.

Pills made of this Turpentine, are of excellent use in obstructions of the breast, kidneys, and the like.

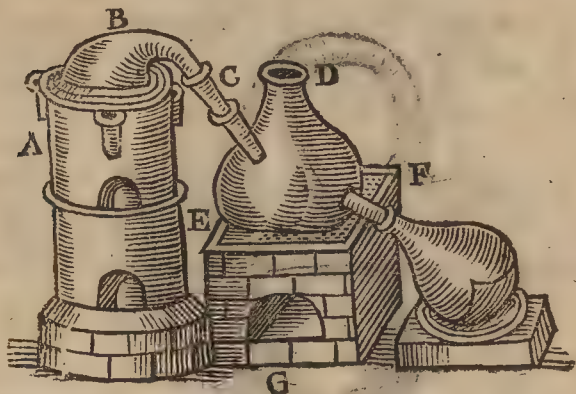
To make the distilled Oyl out of any hearb, seed or flower, in an instant, without any furnace.

You must have a long pipe made of tin, which must have a bowl in the middle, with a hole in it as big as you can put your finger into it; by which you must put your matter, that you would have the Oyl of. Set this matter on fire with a candle or coal of fire, then put one end of the pipe into a bason of fair water, and blow at the other end, and the smoak will come into the water, and there will an Oyl swim upon the water, which you may separate with a funnel.

To

To make water, and the tincture of any Vegetable at the same time, which is an excellent way to draw out the vertue thereof.

This must be performed by these following vessels.



- A, Signifies the Furnace it self.
- B, The Retort which stands in Water or sand; wherein the matter to be distilled is put, instead Whereof, if you please, you may put a gourd glass with a head to it.
- C, The Pipe.
- D, Another vessel, where is more fresh matter; out of which the tincture is to be drawn, and which stands upon ashes with a fire under it.
- E, The Furnace With a pan of ashes.
- F, The Receiver.
- G, The hole of the Furnace to put in coals, to heat the second matter.

A way to separate fresh water from salt, without a furnace or much trouble.

Take a Caldron with a great and high cover, having a beak or nose, set it upon a trefoot, and under it put fire: let this be filled with salt water, and there will presently di-

still of a good quantity of fresh water into a Receiver, which must be joyned to the nose of the aforesaid cover.

This is of good use for Sea-men that want fresh water, for by this means they may distill a good quantity in 24 hours, especially if they have any considerable number of the aforesaid vessels, a figure whereof is this which follows.



A way to purge and purifie troubled and muddy waters.

Fill a great pot with pudled water, put a soft and gentle fire under it, lay some sticks across on the pot brims, and upon the sticks lay clean wooll, or a spung well washed; Now the wooll drinks up the vapours that ascend, which then you must wring out, and lay on the wooll again, and this you may do till you have as much clean water as you desire. The manner of this distillation is described thus.



A, Signifies the Pot.

C, The Sticks.

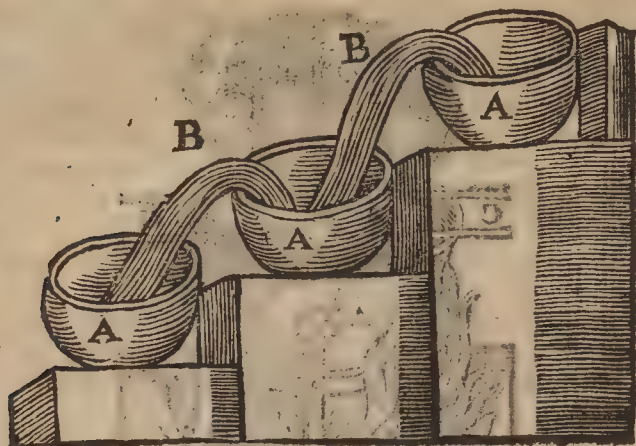
B, The Fire.

D, The Wool.

This is of use for them that can come at no other waters but what are troubled, as it falls out many times in some places.

Another way to purifie any thick, muddy, or feculent Liquor.

This is performed by shreds of any white woollen cloth in vessels, as you see hereafter expressed.



A, Signifies the vessels.

B, The shreds.

Note, that the shreds must be first wet in fair water, and the feculent matter be put into the uppermost vessel.

Note also, whereas here be two Receivers, that in many cases one may be sufficient.

This way serves for the purifying of decoctions, juices, or dissolutions of salts from their feculency, for that which is distilled by the shreds is as clear as Crystal, when what remains is very feculent.

To keep fire in a glass, that whilest the glass is shut will not burn, but as soon as it is opened will be inflamed.

First extract the burning spirit of the salt of tin in a glass Retort well coated; when the Retort is cold, take it out and break it, and as soon as the matter in it, which remains in the bottom thereof after distillation, comes into the air, it will presently be inflamed. Put this matter into a glass viol, and keep it close stopp'd.

This

This fire will keep many thousand years and not burn unless the glass be opened: but at what time soever that is opened it will burn,

It is conceived that such a kind of fire as this was found in Vaults when they were opened, which many conceived to be a perpetual burning Lamp, when as indeed it was inflamed at the opening of the Vault, and the letting in air thereby, which before it lacked, and therefore could not burn: For it is to be conceived, that there is no fire burns longer then its matter endures, and there is no combustible matter can endure for ever.

There may be many uses of such a fire as this, for any man may carry it about with him, and let it burn on a suddain, when he hath any occasion for fire.



A Lamp Furnace is made thus.



A, Signifies the Candlestick, which must be hollow, and full of water,

B, The top of the Candlestick which must be wide to contain good store of water, for to fill up the Candlestick as the candle riseth up.

C, The Candle, which must be as long as the Candlestick.

D, The

- D, The vessel that contains either water, sand, or ashes, for any vessel to be set into; also to contain any matter it self, that is to be digested.
- E, A glasse vessel standing in digestion.
- F, A narrow mouthed stopple to be put into the Candlestick to keep the Candle upright, and that must be made of Tin, with holes in it.
- G, The Cover for the vessel D, which is to be put upon it when any thing is decocted, or kept warm in it.
- H, A Still head to put upon the vessel D, when you would distill any thing in it.

Note, that if you make all these vessels large, you may do many considerable things without much labour, or trouble.

In the vessel D, if it be large, you may stew meat, which if you put it in at night, and cover it close, you may have it ready for your breakfast in the morning, and so according to the time you put it in, you may have it for dinner or supper. Also you may keep any thing warm in the night, and at all times, and divers such uses as these it may be used for.

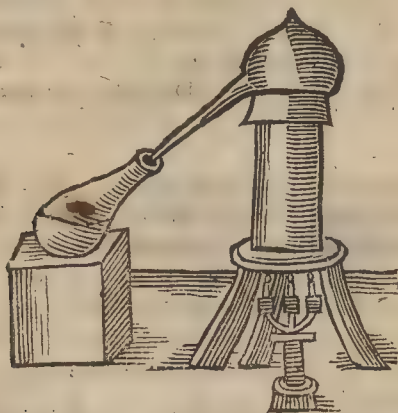
Note, that the Candle will still rise up, till it be quite burned out, and an ordinary Candle will last twice as long this way as it will out of the water.

If you would have one Candle last a long time, as twelve or twenty hours, you must either make your Candlestick, very long, that it may contain a long Candle; or make your Candle big and the wick small, or make your Candle of such matter as will not presently be consumed.

Note also, that if you would have a great heat, your Candle must be great, and also the wick thereof great; but if gentle, let your Candle be small

Another Lamp-Furnace.

There is another sort of Lamp-Furnace, with three Candles, after this manner.



The use of this is, when you would have a constant fire that should give a stronger heat than one Candle in the former Furnace. And the truth is, that if your Candles be big, (as you may make them as big as you will) you may have as strong a heat this way as by Ashes in an ordinary Furnace.

To make a Candle that shall last long.

Take unslaked Lime, powder it and mix it with your Tallow, and so make your candle of that; or else you may make Candles of Castile-sope, which will serve for such uses as these, viz. to burn in such a Lamp-furnace.

Note, that it is the Salt that is in the Lime, and Sope that preserves the Tallow from burning out so fast as otherwise it would.

To make a lasting and durable Oyl.

Take unslaked lime, Bay-salt, Oyl-Olive, of each a like quantity, mix them well together, and distil them in Sand, cohobate the Oyl upon the same quantity of fresh Lime, and Salt: and this do four or five times: By this means will the Oyl be clear, and impregnated with what salt was volatile in the lime, and salt.

Now that saline impregnation is, that which gives a durability to the Oyl.

Note, that this Oyl, whilst it is distilling, is of a most fragrant smell: I have some of it which I distilled seven times, and it is as pure, subtle and odoriferous, as many common distilled Oyls of Vegetables.

This Oyl, besides the durability of it, is also good against any inveterate ach in the limbs.

A Lamp made with this Oyl, will continue burning six times as long as a Lamp made of other Oyl, as also it burns very sweet.

There must be a great deal of care used in making of it, or else you will quickly break your Glasses, also you must take very strong lime, such as the dyers use, and call cauk.

Philosophical Bellows.

There be here set down three figures of these kinds of Instruments, which belong to several uses.



- A, Signifies that which blows a fire for the melting of any metal, or such like operation, and it blows most forcibly with a terrible noise.*
B, That which blows a Candle to make the flame thereof very strong, for the melting of Glasses, and nipping them up.
C, That which any one may hold in their hands, to blow the fire strongly upon any occasion.

Now the manner of the using them is this: you must first heat them very hot, then put the noses thereof (which must have a very small hole in them, no bigger then that a pins head may go in) into a vessel of cold water, and they will presently suck in the water, of which then being full, turn the noses thereof toward the candle, or fire, which you would have blown.

As for the figure C, it must have a mouth drawn up round, and hanging out an inch from the face, which mouth (the whole compass of the face being heated first) you must dip in cold water, and it will suck in water, as the noses of the former did. This then you must hold close to the fire that it may be heated, and it will blow exceedingly, as otherwise it will not, viz. if it be cold.

If you put sweet water into such a vessel, you may perfume a chamber exceedingly, for a little quantity thereof will be a long time breathing forth.

Note; that these kinds of vessels must be made of Copper, and be exceeding well closed, that they may have no vent but by their noses.

An excellent invention to make a Fire.

Take three parts of the best *New-castle* coals beaten small, one part of loam; mix these well together into a mass with water, make thereof Bills, which you must dry very well.



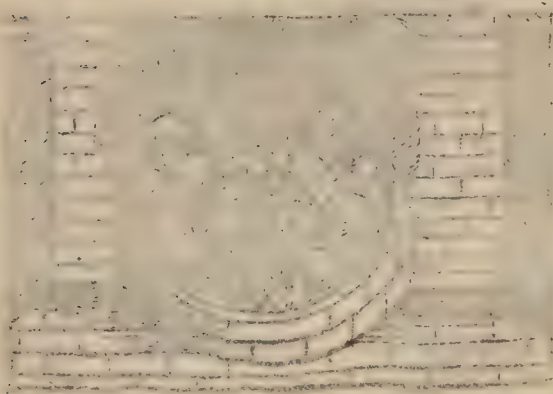
This fire is durable, sweet, not offensive by reason of the smোক, or cinder, as other coal-fires are; beautiful in shape, and is not so costly as other fire, burns as well in a Chamber even as Char-coal.

This fire may either serve for such Distillations as require a strong, and lasting heat, or for ordinary uses, either in the Kitchen, or Chambers,

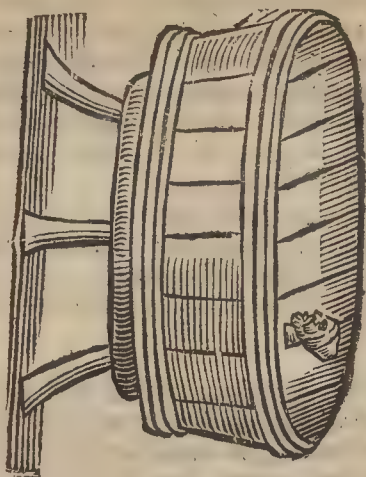
A new invention for Bathes.

Seeing by bathing and sweating most diseases are cured, especially such as proceed from wind, hot, and distempered humours, or cold and congealed humors, because all these are rarified, and evaporated by transpiration in sweating, or bathing, I thought it a thing much conducing to mans health, to set down such a way of bathing and sweating that might be very effectual, and appropriated to any particular disease or distemper.

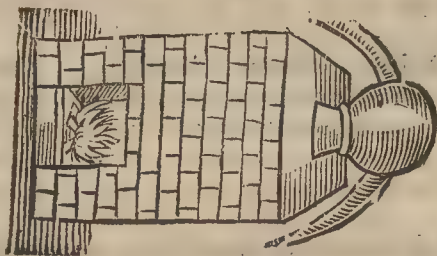
I shall therefore here commend to you a way of bathing by distillation, the manner of which you may see by these ensuing vessels.



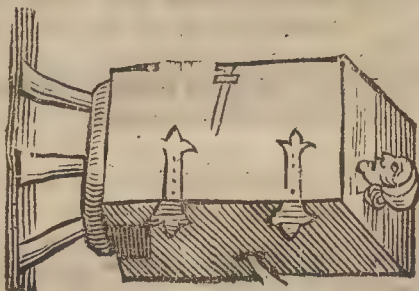
As Sig-



C



A



B

A. Sig-

- A, Signifies a hot Still with two pipes going into two wooden vessels; In this Still you may put either herbs, or spices, with water, or with Spirits, and distil them; by which means, they that are in the vessels will presently be forced into a sweat by virtue of the subtilty of the vapours. And this indeed is as good and effectual a way for sweating as any can be invented: You may by this means appropriate your ingredients to the nature of the diseases.
- B, A vessel wherein a man sits in the bath. Now this vessel hath in it a door for the easier going into it, which fashion is far better, and more convenient, than to be open only at the top.
- C, A long vessel where a man that is weak, and not able to sit up, lies and is bathed.

Now you must note, that these vapours must not be hotter than the Patient can bear: also if the vapour come forth too hot upon the body of the Patient, he may by putting a pipe upon the end of the pipe that comes into the vessel, divert the hot vapour from his body, and so it will not offend him that way.

Note, that the Patient, as soon as he begins to be faint, must come forth, or else he will suffer more prejudice than good by his bathing; and also to prevent him from fainting, let him take some Cordial, or cold Beer, which will much revive him, and make him endure his bating longer, as also make him sweat the more.

As soon as the Patient comes forth, let him go into a warm bed, and sweat as he is able to bear it, and take some Posset-drink, or Broth, or such like warm suppers, as also some good Cordial if he be very faint.

The Patient may according as his strength will bear, and his disease require, bath, more seldom or oftner.

An artificial hot Bath, made from the same principles as the natural Bath is.

Before I set down the process of making an artificial hot Bath, I shall premise somethings concerning the true nature, and original of a hot Bath. Now the clearest and best account that

that I ever heard or read, of the cause of the heat in Bathes is that which is given by *Monsieur de Rochas*, & that in a demonstrative way; His words are these: As I was (saith he) with some of my companions wandering in *Savoy*, I found in the Valley of *Luzerne* betwixt the *Alps* a hot spring; I began to consider the cause of this heat, and whereas the vulgar opinion is, that the heat of Fountains is from Mountains fired within, I saw reason to think the contrary, because I saw Snow upon a Mountain from whence this hot Spring came, unmelted, which could not possibly but have been dissolved by the hot fumes of the Mountains, had they been fired. Whereupon being unsatisfied, I with my companions and other labourers (whom I could very hardly perswade to undertake such a business, by reason they were afraid that fire would thereupon break forth out of the ground and consume us) got tools and set upon digging to find out the true cause of the heat of this Fountain. After we had digged 15. dayes (having before perceived the water to be hotter and hotter by degrees as we came neerer to the source) we came to the original of the heat, where was a great ebullition: In three hours more, we digged beyond this place of ebullition, and perceived the water to be cold, yet in the same continued stream with the other that was hot: upon this I began to wonder much at the reason of these things. Then I carryed to my lodging some of this hot water (which was both saltish, and acid) and evaporated it; and of forty ounces I had in the bottom five drams of saltish matter, which I then yet farther purified, and extracted thence three drams of pure nitrous Hermetick Salt, the other two ounces being a slimie sulphurous substance: Yet with this I was not satisfied, but with my labourers went again to the place, and digged twelve days more, and then we came to a water which was insipid as ordinary Fountain Water, yet still in a continued stream with the saltish and hot water. At this I wondred much, whereupon I digged up some of the earth where the cold, and saltish stream did run, and carried it home with me, and out of a hundred weight thereof, I extracted a good quantity of nitrous Salt, which was almost fluxile. When I had extracted as much as I could, I laid the Earth aside, and in 24. hours it was all covered over

with Salt, which I extracted, and out of a hundeed weight of this Earth, which I call Virgin-earth, I had four pound of this kind of Salt which it contracted in the aforesaid 24. hours : and so it would do constantly. Now this satisfied me concerning one doubt : For, before I was unsatisfied how there could be a constant supply of that salt which made the water saltish, seeing there was but a little distance betwixt the insipid water and the hot water, and the constant stream of water washed away the Salt which was in that little space : for I perceived that this kind of Earth attracts this universal Salt in the World, partly from the air in the cavities of the Earth, and partly from the vapours that constantly pass through the Earth. After this, I took some of that Earth where the ebullition was, and carried it home, and proued it, and I perceived it to be a Sulphur-mine, into which the former acid saltish water penetrating caused an ebullition, as do Salt of Tartar, and Spirit of Vitriol being mixed together, and also water poured on unslaked Lime. After this, I began to question, how it was, that this Sulphur-mine was not consumed, seeing so much matter passeth from it daily : but when I began to understand, how all things in the earth did assimilate to themselves whatsoever was of any kind of affinity to them, as Mines conuert the Tools of Miners into their own substance in a little time, and such like experiments of that nature, I was satisfied. And after all this, I understood how this universal Salt of the World was to be had, and I could at any time mix it with water, and pour that Water upon Sulphur, and so make an artificial hot Bath as good as any natural Bath whatsoever. Note, that no Salt in the World but this Nitrons Salt will do it, as I often tryed : And this Salt is to be found in all hot Bathes, and to be prepared artificially. Thus farr *Monsieur de Rochas*. Something like unto this *Helmont* seems to hold forth, saying that there is a *Primum ens salium*, or *semina salium*, which are all seated in waters and vapours, and give them an acidity, but as yet have no saline taste, until they meet with such principles, and be received into certain matrixes in the Earth, which may make them put forth this potential saltiness into act : and according to this diversity of places, that this water or vapours, being impregnated with those seeds of Salt, go through, ariseth the diversity of

Salts,

Salts, as Alum, Sea-salt, Nitre, &c. Then upon this account the Earth through which the cold, acid, saltish water abovesaid, doth run, did specificate that potential Salt which was both in the waters and vapours, into a nitrous Salt, (by which means was that kind of Salt in that place) but whether this *primum ens salinum* be so unspecificated, or *quid Hermaphroditicum*, as he asserts, or no, it matters not much to my purpose; it sufficeth, if that Earth through which that acid nitrous water runs, attracts and multiplies an acid nitrous Salt, with which the water being impregnated, and running through a sulphurous Mine, causeth an ebullition. All this being premised, I shall now endeavour to illustrate how Nature may in this be imitated, as that an artificial hot Bath may be made by such like principles, as the natural hot Bath consists of, being artificially prepared.

Now these principles are the Sulphur-mine, and the acid nitrous Salt; the former requires no further preparation (as saith *Monsieur de Rochas*,) if it be pure: the latter is to be prepared two manner of wayes: for either it is to be extracted, as saith the foresaid Author out of the waters of the Bath by evaporating them away, or by condensing the nitrous air (for indeed, as many judicious Philosophers are of opinion, the Air is wholly nitrous, as it appears by the condensation of it in cold places into Nitre) which his Virgins-Earth did do, into a Salt, which was acid and almost fluxil. Now, when I say, that the nitrous Salt is to be thus prepared, I do not say, that this is the full preparation thereof; for indeed, it is yet further to be prepared, and that is by giving it a greater acidity. I question much, whether or no, the Salt being prepared after the aforesaid wayes, do retain that acidity which is required for that ebullition I spake of, and which the nitrous acid water had before it came to the Mine of Sulphur: For indeed, the aforesaid Author, when he affirmed, that he could at any time make an artificial hot Bath, did not say, he used Salt prepared only after the two former wayes, *viz.* by extracting it out of the waters of the Bath, and making it with his Virgin-Earth which did attract, and condense the nitrouness of the Air; but wisthal, by making it so acid, that it might cause an ebullition when it came to be joyned with a

Sulphur-Mine. Now then how to give this Nitre a sufficient acidity, is the great question. For the better effecting of this, we must consider whence that nitrous water (above mentioned) in the earth had the greatest part of its acidity. As to that, it must be remembred, that the Virgin-earth through which the acid nitrous water did run, did condense the nitrous air or vapours into a nitrous Salt, and withal it is to be considered, that before this nitrous air or vapour, before it be condensed, even when it is neer unto condensation is acid, and part of it before condensation is mixed with the water, and so renders it acid. Now that waters have great part of their acidity from the acid vapours of acid Minerals, both *Henricus ab Heers*, and *Jordan*, upon Mineral waters affirm: and that Salts unbodied, are farr more acid than when they have assumed a body, is clearly manifest in this, *viz.* that Spirits of Salts, which I call Salts unbodied, because they have lost their body, are become very acid, because unbodied; if so in Spirits that have lost their bodies, why not after some proportion in those that have not yet assumed a body, as vapours of Nitre, or nitrous air being neer to congelation, and bodying, and impregnant with Spirits of Nitre.

Now I say, that nitrous vapours, or nitrous air being a Salt unbodied are not so acid as Spirits of Nitre, because they are more phlegmatick and crude, which phlegm they lose by being congealed into a Salt: yet for all this, they are farr more acid than the body of Salt: and this is that which *Helmont* understands, when he saith, that the esurine Salt being incorporated is farr more active, in giving tast and odour, than when it hath received its body, by becoming a speciflicated Salt. Furthermore, how Nitre shall become sufficiently acid for the aforesaid operation, is the great matter to be enquired into. We must therefore consider, which way we may unbody Nitre (seeing it is scarce possible to get it before it hath received its body) and that is done two wayes either by forcing of it into a most sharp Spirit, which is too acid for our intension, or by digesting the whole substance of Nitre into a liquor moderately acid, which indeed serves for our purpose, and the process is this.

Take the purest Nitre you can get, dissolve it in Rain-water, so as that the water imbibe as much of it as it can. Then put this nitrous water into a common earthen vessel unglazed, which you must set in a cellar. You shall see this vessel in a short time to be white all over on the outside as with a hoar frost, which whiteness is partly the floures of the Nitre being the purest part thereof penetrating the vessel, and partly the nitrous air condensed into Nitre by the coldness of the vessel, as also assimilated to the Nitre that penetrated the vessel. I said by the coldness of the vessel, because such is the coldness of an Earthen-vessel wherein is Nitre, dissolved in water, that it will being set in Snow by the fire-side forthwith be freezed. This Nitre you must strike off with a feather, and when you have a sufficient quantity thereof, as three or four pounds, put this, or the nitrous Salt extracted from Bath-waters into a bolt-head of Glass. (a pound in each Bolt-head) that two parts of three be empty, nip it up, and set it in ashes, and give it a reasonable strong fire, *viz.* that the upper part of the boud of the bolt-head be as hot, as that you can but well suffer your hand upon it, and you shall see that the Nitre will be dissolved every day a little, and in two or three months time be wholly dissolved, and become acid, but not so acid as the Spirit thereof; then put it into a Glass-gourd with a head, and distil it off, and in the bottom you shall find an acid nitrous Salt, almost fluxil, not unlike the Salt which *Monsieur de Rochas*, found in the evaporating of his water. Then pour the distilled Nitre-water upon the said Salt, and then it is for your use.

The use of these principles or ingredients is this, *viz.* make Fountain-water sufficiently acid with this nitrous Liquor, then pour it upon a sufficient quantity of the best Sulphur-Mine, or Sulphur-*vivum* in a large wooden vessel where the Patient is to be bathed, and you will see the water presently heated so hot as the Patient is able to bear.

The inward use of these Bath-waters, is by reason of the Nitre in them, to dissolve gross humors, open obstructions, cleanse the Kidneys and Bladder; and by reason of the Sulphur to dry, mollifie, discuss, and glutinate, and to help all uterine defects proceeding from cold and windy humors.

Note, that they must be drunk warm, and in a good quantity, or else they will do more hurt than good.

The outward use of this is for such ill effects as are in the habit of the body, and out of the veins, as of palsies, contractions, rheums, cold humors, affects of the skin and aches, for they resolve, discuss, cleanse, mollifie, &c.

Now for the manner of bathing I shall not prescribe any thing, but leave this to the discretion of the Physician, who is to give order and directions for all the circumstances about it: for indeed every one is not to bathe, when and how he pleaseth, but must apply himself to an able Physician, and submit himself to his judgment and experience, or else may receive either prejudice, or no benefit thereby.

An artificial Tunbridge, and Epsome Water.

It is granted by all, that *Tunbridge Water* proceeds from an Iron-mine, but how it contracts that acidity, and that ironish and vitriolated taste and odour, seeing upon evaporation thereof, there remains little or no Vitriol or Salt of Iron at the bottom, is the great question: Now for the solution of this, we must consider how many ways a subterranean mineral, or metal, may communicate its acidity to waters, and that saith *Henricus ab Heers*, upon Spaw-waters, it doth three ways; one, when the water passing through the Mines, carryeth along with it some of the dissoluble parts of the Mine, to which is consonant the saying of *Aristotle*: *Such are Waters, as is the nature of those Mines through which they pass*, as also of *Galen*, when he saith, that *pure waters passing through Mineral Mines, carry with them some of the substance of the Mines*. The second way is, when the vapours arising from fermented Minerals and Metals, are mixed with waters. Now that vapours retain the odour, and taste of those things, from whence they are raised, *Aristotle* in his fourth Book *Sublimium* affirms, and also *Helmont*, when he saith, *That some parts of the Iron-Mines being by fermentation turned into a vapour, retain the odour and taste of the Mine, by vertue of the acid & urine Salt, and are not presently reduced into a body, and also artificial vapours of the Iron-Mines have more vertue, and*
active,

active, (I mean those parts that are raised by a strong fire in a furnace from the Mine of Iron) than Iron it self when it is melted. The third is, when a great quantity of vapours arising from the aforesaid fermented Mines is elevated, and by the coldness of the ambient earth is turned into an acid water, which as it passeth through the earth meeteth with some springs of water, and mixing with them gives them a pleasant acidity. And this is the best of all acid waters being clear and very pure.

This being premised, I shall now proceed to the process of making artificial waters, like to those of *Tunbridge* and *Epsome*: of the former, *viz Tunbridge* thus.

Take of the Mine, or Ore of Iron, beat it very small, and put it into the furnace expressed page 84. and there will come forth an acid Spirit, and Floures, which you must mix together till the acid Spirit extract the Salt out of the Floures; then decant off the clear Liquor, which will have a strong taste and smell off Iron.

A few drops of this Liquor put into a Glass full of Fountain-water, give it the odour and taste of *Tunbridge*-water, and communicates the same operations to it.

It openeth all obstructions, purgeth by Urine, cleanseth the Kidneys, and Bladder, helpeth the pissing of blood, the stopping of the Urine, and difficulty of making water, it allayeth all sharp humors, cureth inward Ulcers, and Impostumes, cleanseth and strengtheneth the Stomach, and Liver, &c.

Note, that Fountain-water being made moderately acid with this acid ironish Liquor, may be taken from a pint to six pints, but by degrees; and after the taking of it, moderate exercise is to be used, and fasting to be observed, till all the water be gone out of the body, which will be in seven or eight hours.

Epsome-water is made artificially thus. Take of the Mine of Allum, or Allum-stones, powder it very small, and distil it in the Furnace expressed page 103. and there will distil over a certain acid aluminish water, which must be mixed with a double quantity of Nitre-water, (the preparation whereof is set down in the process of making the artificial hot Bath). Now you must know, that *Epsome* water hath a certain kind of acid

acid taste, which is partly alluminous and partly nitrous; which proceedeth from nitrous air, and vapours arising from the fermentation of alluminous Mines; being first mixed together, and then mixed with the Fountains passing through the Earth.

If you put a few drops of this Liquor into a Glass full of Fountain-water, it will give it the odour, and taste of *Epsome-water*, that you shall scarce discern them asunder either by that odour, or operation.

This water is purgative, and indeed purgeth especially all sharp burning humors, cools an inflamed, and opens an obstructed body; cleanseth the Kidneys and Bladder, cureth inward Ulcers, and Impostumes, is a very good Preservative against the Consumption, &c.

Fountain-water made acid with this Liquor, may be taken from a pint to six or eight, but by degrees, and after it moderate exercise must be used, and fasting till the water be out of the body; only some thin warm suppers may be taken to help the working thereof. Some take this water warm.

To make artificial Precious-stones of all sorts of colours.

Take Crystalline white Pibble-stones that are very white throughout, and have no mixture of any other colour, which you shall find in Fountains, and on the Sands of the Sea. Put them into a Crucible, make them glowing hot (covering the Crucible) then cast them into cold water, by which means they will crack, and be easily reduced into a powder; Take the powder thereof, and put the like quantity of pure Salt of Tartar thereto, which Salt must not be made in any metalline but Glass-vessels, that it may have no mixture of any other colour. To this mixture you may add what colour you please, which must be of a mineral or a metalline nature; then put them into a very strong Crucible, which must be but half full, and then covered, and there melt them in a strong fire, till they become like Glass. Note, that when this mixture is in melting, you must put an Iron-rod into it, and take up some of it, and if there appear no corns of gravel in it, it is enough; If otherwise, you must melt

melt it longer. The especial Minerals and Metals that give colours are these, *viz.* Copper, Iron, Silver, Gold, Wismut, Magnesia, and Granats.

Common Copper makes a Sea-green; Copper made out of Iron a Grasse-green; Granats, a Smaragdine-green; Iron yellow, or a Hyacinth-colour; Silver, white, yellow, green, and granat-colour, Gold a fine skie-colour, Wismut common blew; magnesia, an amethyft colour: And if you will mix two or three of these together they will give other colours. For Copper and Silver mixed together give an Amethyft colour: Copper, and Iron a pale-green; Wismut, and Magnesia, a purple colour; Silver, and Magnesia divers colours like as an Opal. If you would have this mass not to be transparent but Opac, you may adde the Calx of Tin to it when it is in melting: as if you would make *Lapis-luzuli*; then to your mixture coloured with Wismut adde the Calx of Tin, and this mixture when it is almost ready to congeal cast into a mould, where some powder of gold hath been scattered, and by this means it will become full of Golden-veins very like true *Lapis-lazuli*, which is very pleasant to behold. You may by these foresaid preparations cast what forms of figures you please, of what colour you please.

The Metals, and Minerals for the making of colours ought to be thus prepared, *viz.*

Plates of Copper must be made red hot, and then quenched in cold water, of which then take five or six grains, and mix them with an ounce of the aforesaid mixture, and melt them all together, and they will colour it Sea-green.

Iron must be made into a Crocus in a Reverberatory fire, and then eight or ten grains thereof will tinge the mixture into a yellow, or hyacinth colour.

Silver is to be dissolved in *Aqua-fortis*, and precipitated with Oyl of Flints, then dulcified with water, and afterward dried; of this five or six grains give a mingled colour.

Gold must be dissolved in *Aqua-regis*, and precipitated with the Liquor of Flints, then sweetned, and dried, and five or six grains thereof giveth the finest Saphir colour to an ounce of the mixture.

If Gold be melted with *regulus martis nitrosus*, five or six grains thereof give to an ounce of the mass a most incomparable rubine colour.

Magnesia may be powdred only, and then ten or twelve grains thereof make an amethyst colour.

Wismut must be dissolved in *Aqua-regis*, and precipitated with Liquor of Flints, then sweetened, and dryed; and then of this four or five grains turn an ounce of the mass into a Saphir-colour, but not so natural as Gold doth.

Granata may be powder only, and then ten or fifteen grains thereof tinge an ounce of the mass into a fine green colour not unlike to the natural Smaragdine.

To prove what kind of metal there is in any Ore, although you have but a very few grains thereof, so as that you cannot make proof thereof the ordinary way with Lead.

Take two or four grains (if you have no greater quantity) of any Ore that you have, put it to half an ounce of Venice-glass, and melt them together in a Crucible, (the Crucible being covered) and according to the tincture that the Glass receiveth from the Ore, so may you judg what kind of metal there is in the Ore; for if it be a Copper-Ore, then the Glass will be tinged with a Sea-green colour.

If Copper and Iron, a Grass-green.

If iron, a dark yellow.

If Tin, a pale yellow.

If Silver, a whitish yellow.

If Gold, a fine skie-colour.

If Gold and Silver together, a Smaragdine-colour.

If Gold, Silver, Copper, and Iron together, an amethyst colour.

A pretty observation upon the melting of Copper and Tin together.

First make two Bullets of red Coper of the same magnitude, make also two Bullets of the purest Tin in the same mould, as the others were made: weigh all four Bullets, and observe the

the weight well : then melt the Copper-bullets first ; upon them being melted put the Tin-bullets, and melt them together, but have a care that the Tin fume not away : Then cast this molten mixture in the same moulds as before, and it will scarce make three Bullets, but yet they weigh as heavy as the four did, before they were melted together.

I suppose the Copper condenseth the body of the Tin, which before was very porous, which condensation rather adds than diminisheth the weight thereof.

A remarkable observation upon the melting of Salt-Armoniack, and Calx-vive together.

Take Salt-Armoniack, and Calx-vive, of each a like quantity, mix, and melt them together. Note, that Calx of it self will not melt in less than eight hours with the strongest fire that can be made; but being mixed with this salt melts in half an hour, and less, like a metal, with an indifferent fire.

This mixture being thus melted, becomes a hard stone, out of which you may strike fire as out of a Flint, which if you dissolve again in water, you shall have a Salt-Armoniack in the same quantity as before, but fixed.

Note, that hard things have their congelation from Salt-Armoniack, as horns, bones, and such like; for little fixed Salt can be extracted from them, only Volatile and Armoniack.

An ounce of any of these Volatile-salts, (as of Horns, Bones, Amber, and such like) reduced into an acid Liquor by distillation, condenseth, and indurath a pound of Oily-matter.

An easie and cheap powder like unto Aurum fulminans.

Take of Salt of Tartar one part, Salt-peter three parts, Sulphur a third part; grind these well together, and dry them. A few grains of this powder being fired, will give as great a clap as a musket when it is discharged.

*To make an Antimonial Cup, and to cast divers
figures of Antimony.*

Take the best crude Antimony very well powdered, Nitre, of each a pound, of crude Tartar finely powdered two pounds, mix them well together, and put them into a Crucible; cover the Crucible, and melt them, and the *regulus* will fall to the bottom, and be like a melted metal; then pour it fourth into a Brass-mortar, being first smeered over with Oyl.

Or,

Take two parts of powdered Antimony, and four parts of powder of crude of Tartar, melt these as aforesaid.

This *regulus* you may (when you have made enough of it) melt again and cast it into what moulds you please, you may either make Cups, or what Pictures you please, and of what figures you please. You may cast it into forms of shillings, or half-crowns, either of which, if you put it into two or three ounces of Wine in an Earthen-glazed vessel, or Glass, and infuse it in a moderate heat all night, you may have a Liquor in the morning which will vomit: of which the dose is from two drams to two ounces and half.

Note, that in the Wine you may put a little Cinamon, to correct and give a more grateful relish to it.

It is the custom to fill the Antimonial-cup with Wine, and to put as much Wine round about, betwixt that and the little Earthen-cup where it stands, and so infuse it all night, and then drink up all that Wine: but I fear, that so much Wine will be too much as being three or four ounces, when as we seldom exceed the quantity of two ounces of the infusion of Antimony.

These Cups, or Pictures will last for ever, and be as effectual after a thousand times infusion, as at first: and if they be broken at any time, (as easily they may, being as brittle as Glass) they may be cast again into what forms you please.

Note, that he that casts them must be skilful in making his spawde, as also in scouring of them, and making them bright afterwards: for if they be carefully handled they will look even as bright as silver.



*The Spagyricall Anatomy of Gold, and
Silver, together with the Curiosi-
ties therein, and chiefest prepara-
tions thereof.*

B O O K VI.



Shall first endeavour to shew whence Gold had its original, and what the matter thereof is. As Nature (saith *Sandivogius*) is in the will of God, and God created her: so Nature made for her self a seed: (*i.*) her will in the elements. Now she indeed is one, yet she brings forth divers things; but she operates nothing without a Sperm: whatsoever the Sperm will, Nature operates, for she is, as it were, the instrument of any Artificers. The Sperm therefore of every thing is better, and more profitable than Nature her self: for thou shalt from Nature without a Sperm, do as much as a Goldsmith without fire, or a Husbandman without grain or seed. Now the Sperm of any thing is the Elixir, the Balsom of Sulphur, and the same as *Humidum Radicale* is in metals: but to proceed to what concerns our purpose. Four Elements gene-

rate a Sperm, by the will of God, and imagination of Nature : For as the Sperm of a man hath its center, or the vessel of its seed in the Kidneys ; so the four Elements by their indefinient motion (every one according to its quality) cast forth a Sperm into the center of the Earth, where it is digested, and by motion is sent abroad. Now the center of the Earth is a certain empty place, where nothing can rest : and the four Elements send forth their qualities into the circumference of the center. As a male sends forth his seed into the womb of the female, which after it hath received a due portion casts out the rest, so it happens in the center of the Earth, that the magnetick power of a part of any place attracts something convenient to it self, for the bringing forth of something, and the rest is cast forth into stones and other excrements : For every thing hath its original from this Fountain, and there is nothing in the world produced but by this Fountain : as for example, set upon an even Table a vessel of water, which may be placed in the middle thereof, and round about it set divers things, and divers colours also ; Salts, &c. every thing by its self : then pour the water into the middle ; and you shall see water to run every way, and when any stream roucheth the red colour, it will be made red by it, if the salt, it will contract the taste of salt from it, and so of the rest : Now the water doth not change the places, but the diversity of places changeth the water. In like manner the seed or sperm being cast forth by the four Elements from the center of the earth unto the superficies thereof, passeth through various places, and according to the nature of the place is any thing produced : if it come to a pure place of earth, and water a pure thing is made.

The seed, and sperm of all things is but one, and yet it generates divers things, as it appears by the former example. The sperm, whilest it is in the center, is indifferent to all forms ; but when it is come into any determinate place, it changeth no more its form. The sperm whilest it is in the center, can as easily produce a tree, as a metal, and an hearb as a stone, and one more precious than another, according to the purity of the place. Now this sperm is produced of Elements

ments thus. These four Elements are never quiet but by reason of their contrariety mutually act one upon another; and every one of its self sends forth its own subtilty, and they agree in the center. Now in this center is the *Archæus*, the servant of Nature, which mixing those sperms together, sends them abroad, and by distillation sublimes them by the heat of a continual motion unto the superficies of the earth: For the earth is porous; and this vapour (or wind, as the Philosophers call it) is by distilling through the pores of the earth resolved into water, of which all things are produced. Let therefore, as I said before, all sons of Art know, that the sperm of metals is not different from the sperm of all things being, *viz.* a humid vapour: Therefore in vain do Artists endeavour the reduction of metals into their first matter, which is only a vapour. Now saith *Bernard Trevisan*, when Philosophers speak of a first matter, they did not mean this vapour, but the second matter, which is an unctuous water, which to us is the first, because we never find the former. Now the specification of this vapour into distinct metals, is thus. This vapour passeth in its distillation through the earth, through places either cold, or hot; if through hot, and pure, where the fatness of Sulphur sticks to the sides thereof; then that vapour (which Philosophers call the Mercury of Philosophers) mixeth, and joyneth it self unto that fatness, which afterwards it sublimes with it self, and then it becomes, leaving the name of a vapour, an unctuosity, which afterwards coming by sublimation into other places, which the antecedent vapour did purge, where the earth is subtle, pure, and humid, fills the pores thereof, and is joyned to it; and so it becomes gold: and where it is hot, and something impure, silver: But if that fatness comes to impure places, which are cold, it is made lead: and if that place be pure and mixed with Sulphur, it becomes Copper: for by how much the more pure and warm the place is, so much the more excellent doth it make the metals.

Now this first matter of metals is a humid, viscous, incombustible, subtle substance, incorporated with an earthy subtilty, being equally, and strongly mixed *per minima* in the caverns of the

the earth. But as in many things there is a twofold unctuousity (whereof one is, as it were, internal, retained in the center of the thing lest it should be destroyed by fire, which cannot be without the destruction of the substance it self wherein it is: the other, as it were, external, seculent, and combustible) so in all metals, except Gold, there is a twofold unctuousity: the one which is external, sulphureous, and inflamable, which is joyned to it by accident, and doth not belong to the total union, with the terrestrial parts of the thing: the other is internal, and very subtle, incombustible, because it is of the substantial composition of *Argent-vive*, and therefore cannot be destroyed by fire, unless with the destruction of the whole substance, whence it appears what the cause is, that metals are more or less durable in the fire: For those which abound with that internal unctuousity are less consumed, as it appears in Silver, and especially in Gold. Hence *Rosarius* saith, the Philosophers could never by any means find out any thing that could endure the fire; but that unctuous humidity only which is perfect, and incombustible. *Geber* also asserts the same, when he saith, that imperfect bodies have superfluous humidities, and sulphureity generating a combustible blackness in them, and corrupting them; they have also an impure, seculent and combustible terrestriety so gross, as that it hinders ingression, and fusion: but a perfect metal, as gold, hath neither this sulphurous or terrestrial impurity; I mean, when it is fully matured, and melted, for whilest it is in concoction, it hath both joyned to it, as you may see in the golden Ore, but then they do not adhere to it so, but that it may be purified from them, which other metals cannot, but are both destroyed together, if you attempt to separate the one from the other: Besides Gold hath so little of these corruptible principles mixed with it, that the inward sulphur or metalline spirit doth sometimes, and in some places overcome them of it self, as we may see in the Gold which is found very pure sometimes in the superficies of the earth, and in the Sea-sands, and is many times as pure as any refined Gold.

Now this Gold which is found in Sands and Rivers, is not generated there, as saith *Gregorius Agricola*, in his third Book *de*

Re Metallica, but is washed down from the Mountains with Fountains that run from thence. There is also a flaming Gold found (as *Paracelsus* saith) in the tops of Mountains, which is indeed separated of it self from all impurities, and is as pure as any refined gold whatsoever. So that you see, that gold although it had an extrinsecal Sulphur and earth mixed with it, yet it is sometimes separated from it, of it self, viz. by that fiery spirit that is in it. Now this pure gold (as saith *Sandivogius*) nature would have perfected into an elixir, but was hindered by the crude air; which crude air is indeed nothing else but that extrinsecal Sulphur which it meets with, and is joyned to in the earth, and which fills with its violence the pores thereof, and hinders the activity of the Spirit thereof; and this is that prison which the Sulphur (as saith the aforesaid Author) is locked up in, so that it cannot act upon its body, viz. Mercury, and conceit it into the seed of gold, as otherwise it would do: and this is that dark body (as saith *Penotus*) that is interposed betwixt the Philosophical Sun and Moon, and keeps off the influencies of the one from the other. Now if any skillful Philosopher could wittily separate this adventitious impurity from gold, whilest it is yet living, he would set Sulphur at Liberty, and for this his service he should be gratified with three Kingdoms, viz. Vegetable, Animal, and Mineral, I mean, he could remove that great obstruction which hinders gold from being digested into the Elixir. For as saith *Sandivogius*, the Elixir, or tincture of Philosophers, is nothing else but gold digested into the highest degree: for the gold of the vulgar is as an hearb without seed; but when gold (i. e.) living gold (for common gold never can, by reason that the Spirits are bound up; and indeed as good as dead, and not possibly to be reduced to that activity which is required for the producing of the sperm of gold) is ripened, it gives a seed, which multiplies even *ad infinitum*. Now the reason of this barrenness of gold that it produceth not a seed, is the aforesaid crude air, viz. impurities. You may see this illustrated by this example.

We see that Orange-trees in *Polonia* do grow like other trees; also in *Italy*, and elsewhere, where their native soil

is, and yield fruit, because they have sufficient heat, but in these colder Countries they are barren and never yield any fruit, because they are oppressed with cold: but if at any time nature be wittily and sweetly helped; then Art can perfect what Nature could not. After the same manner it is in metals; for Gold would yield fruit, and seed in which it might multiply it self, if it were helped by the industry of the skilful Artist, who knew how to promote Nature (*i.*) to separate these Sulphurous and Earthly impurities from Gold: For there is a sufficient heat in living Gold, if it were stirred up by extrinsecal heat, to digest it into a seed. By extrinsecal heat, I do not mean the heat of the celestial Sun, but that heat which is in the earth and stirs up the seed, (*i.*) the living spirit that is in all subterranean sperms to multiply, and indeed makes Gold become Gold. Now this is a heat of putrefaction, occasioned by acid spirits fermenting in the earth, as you may see by this example related by *Albertus Magnus*, but to which the reason was given by *Sandivogius*. There was, saith the former Author, certain grains of Gold found betwixt the teeth of a dead man in the grave: wherefore he conceived there was a power in the body of a man to make and fix gold: but the reason is farr otherwise, as saith the latter Author; for, saith he, *Argent vive* was by some Physician conveyed into the body of this man, when he was alive, either by unction, or by turbith, or some such way as the custom was; and it is the nature of Mercury to ascend to the mouth of the patient, and through the excoriation of the mouth to be avoided with the flegm. Now then, if in such a cure the sickman dyed, that Mercury, not having passage out, remained betwixt the teeth in the mouth, and that carcass became the natural vessel of Mercury, and so for a long time being shut up was congealed by its proper Sulphur into Gold by the natural heat of putrefaction, being purified by the corrosive flegm of the carcass, but if the Mineral Mercury had not been brought in thither, Gold had never been produced there: And this is a most true example, that as Mercury is by the proper Sulphur that is in it self, being stirred up and helped by an extrinsecal heat, coagulated into Gold, unless it be hindered by

by any accident, or have not a requisite extrinsecal heat, or a convenient place; so also that nature doth in the bowels of the earth, produce of Mercury only Gold and Silver, and other metals according to the disposition of the place, and matrix; which assertion is further cleared by the rule of reduction, for if it be true, that all things consist of that which they may be reduced into, then Gold consists of Mercury, because (as most grant, *Paracelsus* affirms, and many at this day profess they can do) it may be reduced into it. There is a way by which the tincture of Gold, which is the soul thereof, and fixeth it, may be so fully extracted, that the remaining substance will be sublimed like Arsenick, and may be as easily reduced into Mercury as Sublimate. If so, and if all Mercury may be reduced into a transparent water, as it may (according to the process set down page 94. and as I know how another better and easier way to turn a pound of Mercury, of it self, into a clear water in half an hour, which is one of the greatest secrets I know, or care to know, together with what may be produced thence, and shall crave leave to be silent in) why may not that water, in some sense, if it be well rectified, be called a kind of living Gold, out of which you may perhaps make a medicine, and a *Menstruum* unfit for the vulgar to know. It appears now, from what is premised, that the immediate matter of Gold is probably Mercury, and not certain Salts, and I know not what, as many dream of; and that the extrinsecal heat is from within the earth, and not the heat of the Sun, as some imagine (because in the hottest countreys there is all, or almost all Gold generated) who if they considered, that in cold Countreys also are; and as in *Scotland* were Gold mines in King *James* his time, would be of another mind, then to think, that the celestial Sun could penetrate, so as to heat the earth so deep as most gold lies.

I now having, in some measure, discovered what the intrinsic, and extrinsecal heat, and the matter of Gold is: I shall next endeavour to explain, what those three principles are; viz. Salt, Sulphur, and Mercury, of which *Argent. viv.* and Gold consist: Know therefore, that after Nature had received from the most High God the privilege of all things upon

the Monarchy of this world, she began to distribute places, and provinces to every thing, according to its dignity; and in the first place did constitute the four elements to be the Princes of the world, and that the will of the most High (in whose will Nature is placed) might be fulfilled, ordained that they should act upon one another incessantly. The fire therefore began to act upon the air, and produced Sulphur: The air also began to act upon the water and produced Mercury: the water also began to act upon the earth and produced Salt. Now the earth not having whereon to act, produced nothing, but became the subject of what was produced. So then there were produced three principles, but our ancient Philosophers not so strictly considering the matter, described only two acts of the elements, and so named but two principles, viz. Sulphur and Mercury: or else they were willing to be silent in the other, speaking only to the sons of Art.

The Sulphur therefore of Philosophers, (which indeed is the Sulphur of metals, and of all things) is not, as many think, that common combustible Sulphur which is sold in shops, but is another thing farr differing from that, and is incombustible, not burning, nor heating, but preserving, and restoring all things which it is in; and it is the *Calidum Innatum* of every thing, the fire of nature, the created light, and of the nature of the Sun, and is called the Sun; so that whatsoever in any thing is fiery, and airy, is Sulphur, not that any thing is wholly sulphureous, but what in it is most thin, and subtle, having the essence of the natural fire, and the nature of the created light, which indeed is that Sulphur which wise Philosophers have in all ages with great diligence endeavoured to extract, and with its proper Mercury to fix, and so to perfect the great Magistrery of nature. Now of all things in the World, there is nothing hath more of this Sulphur in it, then gold and silver, but especially gold, insomuch that oftentimes it is called Sulphur, (5) because Sulphur is the most predominant, and excellent principle in it, and being in it more then in all things besides.

Mercury is not here taken for common *Argent vive*; but it is the *Humidum Radicale* of every thing, that pure aqueous, unctuous, and viscons humidity of the matter, and it is of the nature of the Moon, and it is called the Moon, and that for this reason, *viz.* because it is humid; as also, because it is capable of receiving the influence and light of the Sun, *viz.* Sulphur.

Salt is that fixt permanent earth which is in the center of every thing that is incorruptible, and inalterable, and it is the supporter and nourse of the *Humidum Radicale*, with which it is strongly mixt. Now this Salt hath in it a seed, *viz.* its *Calidum Innatum*, which is Sulphur, and its *Humidum Radicale*, which is Mercury; and yet these three are not distinct, or to be separated, but are one Homogeneous thing, having upon a different account divers names: for in respect of its heat, and fiery substance, it is called Sulphur; in respect of its humidity, it is called Mercury; and in respect of its terrestrial fixity, it is called Salt; all which are in Gold perfectly united, depurated, and fixed.

Gold therefore is most noble, and solid of all metals, of a yellow colour, compacted of principles digested to the utmost hight, and therefore fixed.

Silver is in the next place of dignity to Gold, and differs from it in digestion chiefly: I said chiefly, because there is some small impurity besides adhering to silver.

Now having given some small account of the original matter, first, and second, and manner of the growth of Gold, I shall, in the next place, set down some curiosities therein, and preparations thereof. The preparations are chiefly three, *viz.* *Aurum Potabile*, which is the mixtion thereof with other Liquors: Oil of Gold, which is Gold liquid by it self, without the mixture of any other Liquor: and the tincture, which is the extraction of the colour thereof.

Dr. Anthony's famous Aurum Potabile, and Oil of Gold.

Dissolve pure fine Gold in *Aqua regis*, according to art (the *Aqua regis* being made of a pound of *Aqua fortis*, and four ounces of Salt Armoniack, distilled together by Retort in Sand) which clear solution put into a large glass of a wide neck, and upon it pour, drop by drop, Oyl of Tartar made *per deliquium*; until the *Aqua regis*, which before was yellow, become clear, and white; for, that is a sign that all Calx of Gold is settled to the bottom: then let it stand all night, and in the morning pour off the clear Liquor, and wash the Calx four or five times with common Spring-water, being warmed, and dry it with a most gentle heat.

Note, and that well, that if the heat be too great, the Calx takes fire presently like Gun-powder, and flies away to thy danger and loss; therefore it is best to dry it in the Sun, or on a stone, stirring it diligently with a wooden spatle: To this Calx add half a part of the powder of Sulphur, mix them together, and in an open Crucible, let the Sulphur burn away in the fire, putting a gentle fire to it at the first, and in the end a most strong fire for the space of an hour, that the Calx may in some manner be reverberated, and become most subtle, which keep in a viol close stopt for your use.

Then make a spirit of Urine after this manner, *viz.* Take the Urine of a healthy man, drinking Wine moderately; put it into a gourd, which you must stop close, and set in horse-dung for the space of forty dayes; then distil it by Alembick in sand, into a large Receiver, until all the humidity be distilled off: Rectifie this Spirit by cohobation three times, that the Spirit only may rise: Then distil it in sand, by a glass with a long neck, having a large Receiver annexed, and closed very well to it; and the spirit will be elevated into the top of the vessel like Crystal, without any aqueous humidity accompanying of it. Let this distillation be continued, until all the Spirits be risen. These Crystals must be dissolved in distilled rain-water, and be distilled as before, this must be done six times, and every time you must take fresh rain-water distilled: Then put these Crystals into a glass bolt-head,

bolck-head, which close Hermerically, and set in the moderate heat of a *Balneum* for the space of fifteen days, that they may be reduced into a most clear Liquor. To this Liquor, add an equal weight of Spirit of Wine, very well rectified, and let them be digested in *Balneo* the space of twelve dayes, in which time they will be united: Then take the Calx of Gold aforesaid, and pour upon it, of these nnited Spirits, as much as will cover them three fingers breadth, and digest them in a gentle heat, until the Liquor be tinged as red as bloud; decant off the tincture, and put on more of the aforesaid Spirits, and do as before till all the tincture be extracted; then put all the tincted Spirits together, and digest them ten or twelve dayes; after which time, abstract the Spirit with a gentle heat, and cohobate it once; and then the Calx will remain in the bottom like an Oyl as red as bloud, and of a pleasant odour, which will be dissolved in any Liquor: Wherefore this Oyl may be the *Succedaneum* of true Gold. If you distil the same solution, by Retort in sand, there will come over, after the first part of the *Menstruum*, the tincture with the other part thereof, as red as bloud, the earth which is left in the bottom of the vessel being black, dry, spongiouse and light: The *Menstruum* must be vapoured away, and the Oyl of gold will remain by it self, which must be kept as a great treasure; and this is Dr. Anthony's *Anrum Potabile*.

Four or eight grains of this Oil taken in what manner soever, wonderfully refresheth the Spirits, and works several ways, especially by sweat.

The true Oyl of Gold.

Take an ounce of leaf-gold, dissolve it in four ounces of the rectified water of Mercury, expressed page 94. digest them in horse dung the space of two months; then evaporate the Mercurial water, and at the bottom you shall have the true Oyl of Gold, which is radically dissolved.

Another process hereof you may see page 89.

A Tincture of Gold.

Dissolve pure Gold in *Aqua regis*, precipitate it with the Oil of sand, into a yellow powder, which you must dulcifie with warm water, and then dry it (this will not be fired as *Aurum fulminans*). This powder is twice as heavy as the Gold that was put in, the cause of which is the salt of the flints precipitating it self with the Gold. Put this yellow powder into a Crucible, and make it glow a little, and it will be turned into the highest, and fairest purple that ever you saw; but if it stand longer, it will be brown: Then powre upon it the strongest Spirit of Salt; (for it will dissolve it better then any *Aqua regis*) on which dissolution poure on the best rectified Spirit of Wine, and digest them together, and by a long digestion, some part of the Gold will fall to the bottom, like a white snow, and may with Borax, Tartar, and Salt-Nitre be melted into a white metal as heavy as Gold, and afterwards with Antimony may recover its yellow colour again; then evaporate the Spirit of Salt, and of Wine, and the Gold Tincture remaineth at the bottom, and is of great vertue.

Another Tincture of Gold.

Take of the aforesaid yellow Calx of Gold precipitated with Oil of Sand, one part, and three or four parts of the Liquor of Sand, or of Crystals; mix them well together, and put them into a Crucible, in a gentle heat at first, that the moisture of the Oil may vapour away (which it will not do easily, because the dryness of the Sand retains the moisture thereof, so that it flyeth away like molten Allum, or Borax) when no more will vapour away, encrease your fire, till the crucible be red hot, and the mixture cease bubbling; then put it into a Wind Furnace and cover it that no ashes fall into it, and make a strong fire about it for the space of an hour, and the mixture will be turned into a transparent Ruby: Then take it out, and beat it, and extract the tincture with Spirit of Wine, which will become

become like thin blond, and that which remains undissolved may be melted into a white metal as the former.

Another Tincture of Gold.

Hang plates of Gold over the fume of *Argent-vive*, and they will become white, friable, and fluxil as wax. This is called the *Magnesia of Gold*, as saith *Paracelsus*; in finding out of which (saith he) Philosophers, as *Thomas Aquinas*, and *Rapescissa* with their followers, took a great deal of pains, but in vain, and it is a memorable secret, and indeed very singular for the melting of metals that are not easily fluxil. Now then Gold being thus prepared, and melted together with the Mercury, is become a brittle substance, which must be powdered and out of it a tincture may be drawn for the transmuting of metals.

Another Tincture.

Take half an ounce of pure Gold, dissolve it in *Aqua-regis*, precipitate it with Oyl of Flints, dulcifie the Calx with warm water, and dry it, and so it is prepared for your work: Then take *Regulus Martis* powdered, and mix it with three parts of Salt-Nitre, both which put into a Crucible, and make them glow gently at first, then give a strong melting fire, and then this mixture will become to be of a purple colour, which then take out, and beat to powder, and adde to three parts of this, one part of the Calx of Gold prepared as before; put them into a Wind-furnace in a strong Crucible, and make them melt as a metal, so will the *Nitrum-antimoniatum* in the melting take the Calx of Gold to it self, and dissolve it, and the mixture will become to be of an Amethyst colour. Let this stand flowing in the fire till the whole mass be as transparent as a Rubine, which you may try by taking a little out and cooling of it: If the mixture do not flow well, cast in some more Salt-Nitre. When it is completely done, cast it forth, being flowing into a brazen-mortar, and it will be like to an oriental Rubine; then powder it before it

be cold, then put it into a Viol, and with the Spirit of Wine extract the tincture.

This is one of the best preparations of Gold, and of most excellent use in medicine.

Another Tincture.

First make a Furnace fit for the purpose, which must be close at the top, and have a Pipe to which a Recipient with a flat bottom must be fitted: When this Furnace is thus fitted, put in three or four grains (not above) at once, of *Aurum fulminans*, which as soon as the Furnace is hot, flyeth away into the Recipient through the pipe like a purple coloured fume, and is turned into a purple coloured powder, then put in three or four grains more, and do as before, till you have enough flowers of Gold (that which flyeth not away, but remaineth at the bottom, may with Borax be melted into good Gold) then take them out, and pour upon them rectified Spirit of Wine tartarized, and digest them in ashes till the spirit be coloured blood-red, which you must then evaporate, and at the bottom will be a blood red tincture of no small vertue.

Aurum-fulminans.

Take the purest Gold you can get; pour on it four times as much *Aqua-regia*; stop your Glass with a paper, and set it in warm ashes, so will the *Aqua-regia* in an hour or two take up the Gold, and become a yellow water, if it be strong enough: (be sure that your Gold hath no Copper in it, (for then your labour will be lost) because the Copper will be precipitated with the Gold, and hinder the firing thereof) then pour on this yellow water drop by drop, pure Oyl of Tartar made *per deliquium*; so will the Gold be precipitated into a dark yellow powder, and the water be clear. Note, that you pour not on more Oyl of Tartar than is sufficient for the precipitation, otherwise it will dissolve part of the precipitated Gold to thy prejudice. Pour off the clear Liquor by inclination, and dulcifie the Calx with distilled

filled Rain-water warmed. Then set this Calx in the Sun, or some warm place to dry, but take great heed, and special care, that you set it not in a place too hot, for it will presently take fire, and flie away like Thunder, not without great danger to the standers by, if the quantity be great. This is the common way to make *Aurum fulminans*, and it hath considerable difficulties in the preparation. But the best way is to precipitate Gold dissolved in *Aqua-regis* by the Spirit of Salt-Armoniack, or of Urine; for by this way the Gold is made purer than by the other, and giveth a far greater crack and sound. Note, that the Salt of the Spirit which is precipitated with the Gold must be washed away, and the Gold dulcified as before.

A few grains of this being fired, give a crack and sound as great as a Musket when it is discharged, and will blow up any thing more forcibly farr than Gunpowder, and it is a powder that will quickly and easily be fired.

This is of use for Physick as it is in powder, but especially it is used in making the fore-going tincture.

To make Gold grow in a Glass like a tree, which is called the Golden-tree of the Philosophers.

Take of Oyl of Sand as much as you please, pour upon it the same quantity of Oyl of Tartar, *per deliquium*; shake them well together that they be incorporated and become as one Liquor of a thin consistence; then is your *Menstruum* or Liquor prepared, Then dissolve Gold in *Aqua-regia*, and evaporate the *Menstruum*, and dry the Calx in the fire, but make it not too hot, for it will thereby lose its growing quality; then take it out and break it into little bits, not into powder; put those bits into the aforesaid Liquor (that they may lye a fingers breadth the one from the other) in a very clear glass. Keep the Liquor from the air, and you shall see that those bits of the Calx will presently begin to grow; first they will swell, then they will put forth one or two stems, then divers branches and twigs so exactly, as that you cannot chuse but exceedingly to wonder. This growing is real, and not imaginary only. Note, that the glass must stand still, and not be moved.

Another Way.

Calcine fine Gold in *Aqua-regis*, that it become a Calx, which put into a Gourd-glass, and pour upon it good and fresh *Aqua-regis*, and the water of Gradation, so that they cover the Calx four fingers breadth; this *Menstruum* abstract in the third degree of fire until no more will ascend. This distilled water pour on it again, and abstract it as before; and this do so often till you see the Gold rise in the Glass, and grow in the form of a tree, having many boughs and leaves.

To make Gold grow and be increased in the Earth.

Take leaves of Gold, and bury them in the Earth which looks towards the East, and let it be often soiled with mans urine, and doves-dung, and you shall see that in a short time they will be increased.

The reason of this growth, I conceive, may be the Golds attracting that universal vapour and sperm that comes from the center through the earth (as hath been spoken in the Anatomy of Gold) and by the heat of putrefaction of the dung purifying and assimilating it to it self.

A remarkable observation upon a golden Marcasite.

There is found a certain stone in *Bosonia*, which some call a golden Marcasite, some a solary Magnes that receives light from the Sun in the day time, and gives it forth in the dark: About this there have been much reasoning amongst Philosophers, as whether light be really a body, or any kind of substance, or an accident only, and whether this stone had any Gold in it or no, and what it did consist of. He that first discovered it, thought that he had found a thing that would transmute metals into Gold, (by which it appears that there seemed to be something of Gold in it; or something more glorious than Gold) but his hopes were frustrated by a fruitless labour, notwithstanding which, I conceive, there might be some
imma-

immature or crude Gold in it ; for crude Gold is a subject (being there is some life in it) that is most fit to receive the influences of the Sun, according to the unanimous consent of all Philosophers, and therefore is by them not only called Solary, but *Sol.* (i.) the Sun it self.

It is prepared for the receiving of light thus: it is calcined two wayes; first, it is brought into a most subtile powder with a very strong fire in a crucible; secondly, being thus brought into a powder, is made up into Cakes as big as a doller, or a piece of eight, either with common water alone, or with the white of an egge; put those Cakes being dried by themselves, into a Winde-Furnace *S S S*, with coals, and calcine them in a most strong fire, for the space of four or five hours. When the Furnace is cold, take them out, and if they be not sufficiently calcined the first time, (which is known by their giving but little light,) then reiterate the calcination after the same manner as before, which is sometimes to be done thrice. That is the best which is made of the choicest stones that are clean, pure, and diaphanous, and gives the best light. With this being powdered, you may make the forms of divers Animals of what shapes you please, which you must keep in boxes, and they will receiving light from the Sun in the day time, give light in the night, or in a dark place, which light will vanish by degrees.

The vertues of the aforesaid preparations of Gold.

With the aforesaid preparations the Ancients did not only preserve the health and strength of their bodies, but also prolong their lives to a very old age; and not that only, but cured throughly the Epilepsie, Apoplexie, Elephantiasis, Leprosie, Melancholy, Madness, the Quartain, the Gout, Dropsie, Plurisie, all manner of Feavers, the Jaundice, *Lues-venerea*, the Wolf, Cancer, *Noli me tangere*, Asthma, Consumption, the Stone, stopping of Urine, inward Impostumes, and such like diseases, which most men account incurable: For there is such a potent fire lying in prepared Gold, which doth not only consume deadly humors, but also renews the very marrow of

the bones, and raiseth up the whole body of man being half dead.

They that use any of these preparations for any of the foregoing diseases, must betake themselves to their bed for the space of two or three hours, and expect sweating to ensue, for indeed it will send forth sweat plentifully, and with ease, and leave no impurity or superfluity in the whole body. Note, that they must take it for ten dayes together in appropriated Liquors.

Let young men that expect long life, take any of the aforesaid preparations once in a month, and in the morning, but they must abstain from meat and drink, till the evening of the same day, for in that time that matter will be digested into the radical humor; whereby the strength of the body is wonderfully increased, beauty doth flourish most wonderfully, and continues till extreme old age.

Let old men take it twice in a month, for by this means will their old age be fresh till the appointed time of death.

Let young women and maids take it once in a month after their *menstrua*, for by this means they will look fresh and beautiful.

Let women that are in travel take it, and it will help and strengthen them to bring forth without much pain, notwithstanding many difficulties.

Let it be given to women that have past the years of their *menstrua* once or twice in a month, and it will preserve them very fresh, and many times cause their *menstrua* to return, and make them capable again of bearing children.

It cures the Plague, and expels the matter of a Carbuncle by sweat most potently:

When I say, that this, or it will do thus or thus, I mean, any one of the fore-named preparations, *viz.* *Aurum Potabile*, Oyls, or Tincture of Gold.

The Preparations of Silver in general.

All the several preparations of Gold may, except that of *Aurum*

rum fulminans, be applyed to silver; of which being thus prepared the vertues are inferiour to those of Gold, yet come neerer to them than those of any other matter whatsoever, or howsoever prepared.

Note, that Silver hath some peculiar preparations which neither Gold or any other metals are capable of.

A green Tincture of Silver.

Take fine silver, and dissolve it in twice so much rectified Spirit of Nitre, then abstract half of the said Spirit in sand, let it stand a day or two in a cold place, and much of the Silver will shoot into Crystals, and in oft doing most of it.

These Crystals are very bitter, yet may be made into Pills, and taken inwardly from three grains to twelve; they purge very securely, and gently, and colour the lips, tongue, and mouth black. If in this dissolution of Silver before it be brought to Crystals, half so much Mercury be dissolved and both shoot together into Crystals, you shall have a stone not much unlike to Allum. This purgeth sooner, and better, and is not so bitter; It coloureth the nails, hair, skin, if it be dissolved in Rain-water, with a lovely brown, red, or black, according as you put more or less thereof.

Take of the aforesaid Crystals of Silver, mix with them a like quantity of pure Salt-peter well powdered, then put this mixture into the distilling vessel expressed page 95. at the bottom of which must be powdered coals to the thickness of two fingers breadth; then make strong fire, that the vessel and coals be red hot, put in a dram of the aforesaid mixture, and it will presently sublime in a silver fume, into the Recipient, which being settled, put in more, and so do till you have enough. Take out the flowers, and digest them in the best alcoholized Spirit of Wine, that thereby the Tincture may be extracted, which will be green.

A green

A green Oyl of Silver.

Take of the abovesaid Crytals of Silver one part, of Spirit of Salt-Armoniack two or three parts, digest them together in a Glass with a long-neck, well stoppt, twelve or fourteen days ; so will the Spirit of Salt-Armoniack be coloured with a very specious blew colour, pour it off, and filter it : then put it into a small Retort, and draw off most of the Spirit of Armoniack, and there will remain in the bottom a grass-green liquor : Then draw off all the Spirit, and there will remain in the bottom a salt, which may be purified with Spirit of Wine, or be put into a Retort, and then there will distil off a subtle Spirit, and a sharp Oyl.

This green Liquor is of great use for the gilding of all things presently.

If you take common Rain-water distilled, and dissolve, and digest the abovesaid Crytals of silver for a few days; you shall after the appearance of divers colours, find an essence at the bottom, not so bitter as the former, but sweet, and in this Liquor may all metals in a gentle heat by long digestion be matured, and made fit for medicine; but note, that they must first be reduced into Salts, for then they are no more dead bodies, but by this preparation have obtained a new life, and are the metals of Philosophers.

To make Oyl of Silver per deliquium.

Take of the abovesaid Salts, or Crytals of Silver, and reverberate them in a very gentle fire, then put them into a cellar on a Marble-stone, and they will in two months time be resolved into a Liquor.

To make a Liquor of Silver, that shall make the Glass wherein it is, so exceeding cold, that no man is able for the coldness thereof, to hold it in his hand any long time.

Take the aforesaid Salt of Silver, pour upon it the Spirit of Salt Armoniack and dissolve it thoroughly; and it will do as above said.

With a glass being full of this Liquor, you may condense the air into water, in the heat of the Summer; as also freeze water.

To make silver as white as snow.

Take of the calx of silver made by the dissolution of it in *Aqua fortis*, dulcify it, and boyl it in a Lixivium made of Sope-stones, and it will be as white as any snow.

To make the silver tree of the Philosophers.

Take four ounces of *Aqua fortis*, in which dissolve an ounce of fine silver; then take two ounces of *Aqua fortis*, in which is dissolved half an ounce of *Argent vive*; mix these two Liquors together in a clear glass with a pint of pure water, stop the glass very close, and you shall see day after day, a tree to grow by little and little, which is wonderful pleasant to behold.

I Have set down several vulgar preparations of Gold and Silver, and of almost all things else, I shall now crave leave to give an account of some Philosophical preparations of the Philosophers Gold and Silver: For indeed the Art of preparing of them is the true Alchymy, in comparison of which all the Chymical discoveries are but abortives, and found out by accident, viz. by endeavouring after this. I would not have the world believe that I pretend to the understanding of them; yet I would have them know that I am not incredulous as touching the possibility of that great Philosophical work, which many have so much laboured after, and may have found. To me there is

nothing in the world seems more possible, and whosoever shall without prejudice, read over the Book, entituled *The New Light of Alchymie*, shall, almost, whether he will or no, (unless he resolves not to believe any thing though never so credible) be convinced of the possibility of it. What unworthiness God saw, in Gold, more then in other things, that he should deny the seed of Multiplication (which is the perfection of the creatures) to it, and give it to all things besides, seems to me to be a question, as hard to be resolved, yea, and harder, then the finding out the Elixir it self; in the discovering of which, the greatest difficulty is, not to be convinced of the easiness thereof. If the preparations were difficult, many more would find it out then do (saith *Sandivogius*); for they cast themselves upon most difficult operations, and are very subtle in difficult discoveries, which the Philosophers never dreamed of: Nay, saith the aforementioned Author, if *Hermes* himself were now living, together with subtle-witted *Geber*, and most profound *Raimund Lullie*, they would be accounted, by our Chymists, not for Philosophers, but rather for learners: They were ignorant of those so many Distillations, so many Circulations, so many Calcinations, and so many other innumerable Operations of Artists now a dayes used, which indeed men of this age, did find out and invented out of their books: Yet there is one thing wanting to us which they did, viz. to know how to make the Philosophers stone, or Physical tincture; the processes of which, according to some Philosophers, are these.

*The starving chemist, in his golden views
Supremely blest. Pope.*

The



The Process of the Elixir, according to Paracelsus.

TAKE the mineral *Electrum*, being immature, and made very subtile, put it into its own sphear, that the impurities and superfluities may be washed away; then purge it, as much as possibly you can, with *Stibium*, after the Alchymistical way, lest by its impurity thou suffer prejudice: Then resolve it in the stomach of an Estridge, which is brought forth in the earth, and through the sharpness of the Eagle, is comfortated in its vertue.

Now when the *Electrum* is consumed, and hath, after its solution, received the colour of a Mary-gold, do not forget to reduce it into a spiritual transparent essence, which is like to true Amber; then add half so much as the *Electrum* did weigh before its preparation, of the extended Eagle, and oftentimes abstract from it the stomach of the Estridge, and by this means the *Electrum* will be made more spiritual: Now, when the stomach of the Estridge is wearied with labour, it will be necessary to refresh it, and alwayes to abstract it. Lastly, when it hath again lost its sharpness, add the Tartarized Quintessence; yet so, that it be spoyled of its redness the height of four fingers, and that pass over with it; this do so often till it be of it self white, and when it is enough, and thou seest that sign, sublime it. So will the *Electrum* be converted into the whiteness of an exalted Eagle, and, with a little more labour, be transmuted into deep redness, and then it is fit for Medicine.

*The Process of the Elixir, according to Divi Lesci
Genus Amo.*

TAKE of our earth through eleaven degrees, eleaven grains; of our gold, and not of the vulgar, one grain; of our lüne, not of the vulgar, grains two; but be thou admonished that thou take not the Gold, and Silver of the vulgar, for they are dead, but take ours which are living; then put them into our fire, and there will thence be made a dry Liquor: First the earth will be resolved into water, which is called the Mercury of Philosophers, and in that water it will resolve the bodies of the Sun, and Moon, and consume them that there remain but the tenth part, with one part, and this will be the *Humidum Radicale Metallicum*. Then take the water of the Salt Nitre of our earth, in which there is a living stream, if thou diggest the pit knee deep; take therefore the water of it, but take it clear, and set over it that *Humidum Radicale*, and put it over the fire of putrefaction and generation, but not such as was that in the first operation. Govern all things with a great deal of discretion, until there appear colours like to the tail of a Peacock: govern it by digesting of it, and be not weary till these colours cease, and there appear throughout the whole, a green colour; and so of the rest: and when thou shalt see in the bottom, ashes of a fiery colour, and the water almost red; open the vessel, dip in a feather, and smear over some iron with it if it tinge, have in readiness that water which is the *Menstruum* of the world (out of the spear of the Moon so often rectified, until it can calcine gold) put in so much of that water as was the cold air, which went in, boyl it again with the former fire until it tinge again.

*The Process of the Philosophers-Stone, according
to Pontanus.*

TAke the matter, and grind it with a Physical contrition, as diligently as may be, then set it upon the fire, and let the proportion of fire be known, *viz.* that it only stir up the matter; and in a short time, that fire, without any other laying on of hands, will accomplish the whole work, because it will putrefie, corrupt, generate and perfect, and make to appear the three principal colours, black, white, and red: And by the means of our fire, the medicine will be multiplied, if it be joyned with the crude matter, not only in quantity but also in vertue: Withal, they might therefore search out this fire (which is mineral, equal, continual, vapours not away, except it be too much stirred up; partakes of Sulphur, is taken from elsewhere then from the matter; putteth down all things, dissolveth, congealeth, and calcines, and is artificial to find out, and that by a compendious, and near way, without any cost, at least very small, is not transmuted with the matter, because it is not of the matter) and thou shalt attain thy wish, because it doth the whole work, and is the key of the Philosophers, which they never revealed.

*The Smaragdine table of Hermes from whence
all Alchymie did arise.*

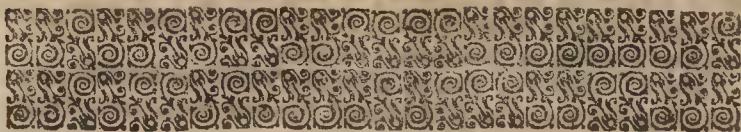
TRue, without all falsity; certain, and most true. That which is inferiour, is as that which is superiour; and that which is superiour, is as that which is inferiour, for the accomplishing of the miracles of one thing. And as all

things were from one, by the mediation of one ; so all things have proceeded from this one thing by adaptation : The Father thereof, is the Sun ; and the Mother thereof, the Moon ; the Wind carryed it in its belly ; the Nurse thereof, is the Earth.

The Father of all the perfection of the whole world is this : The vertue thereof is entire, if it be turned into earth. Thou shalt separate the earth from the fire, the subtle from the thick, sweetly, with a great deal of judgement. It ascends from the earth up to heaven, and again, descends down to the earth, and receives the powers of superiours, and inferiours. So thou hast the glory of the whole world : Therefore let all obscurity fly from thee. This is the strong fortitude of the whole fortitude, because it shall overcome every thing that is subtle, and penetrate every solid thing, as the world is created : Hence shall wonderful adaptations be, whereof this is the manner ; wherefore I am called *Hermes Trismegistus*, having three parts of the Philosophy of the whole world. It is compleat, what I have spoken of the operation of the Sun.

Alchymy.


*Ars sine arte
Cujus principium est mentiri, Of
Medium laborare,
Et finis mendicare.*



OF SUBLIMATION.

BOOK VII.

What Sublimation is.

1.  Sublimation is the extraction of the pure, subtil, dry parts, (from the impure, gross, and feculent matter) which, by the vertue of the fire, is elevated on high, sticking to the sides of the vessels, dry like Atoms; and therein it differs from *Distillation*.

2. *Sublimation* is an operation, whereby the vaporous body, or matter, is forced to rise by the strength of the fire, and then condensed by the Ambient cold.

It is called *Sublimation*, from the manner of the Operation, being opposite to *Precipitation*.

What Furnaces are necessary in this Work.

As to the variety of Furnaces useful in this Art, you have them more generally described in the former part; Two whereof are particularly useful in *Sublimation*, viz.

1. An Iron Vessel in form of either Pot or Kettle (as to the Artist shall seem good) well placed in a Furnace of brick or stone, with convenient Registers; for the regular increase or decrease

of.

of the fire, being very necessary in this Operation ; in which vessel you may use either Sand or Ashes to place your Sublimatory in, according as your matter requires.

Also, A Naked fire ; that is, when the Vessel or Sublimatory containing the matter to be sublimed, standeth in the naked fire, without either Sand or Ashes.

For in Sublimation are required various degrees of fire, according to the diversity of Spirits to be Sublimed : As saith *Geber*, Some Sublimations are performed by a very strong fire, as Marshafires, Magnesia, Tutia, Antimony, &c. Some by a more moderate fire, as Mercury, Arsenick, &c. Some by a more gentle heat, as Sulphur, &c.

Also, there are several Sublimations performed, by casting the matter to be sublimed into the naked fire : Thus are made the flowers of Metals, and stubborn robust Minerals, as hereafter appeareth.

What Vessels are to be used in Sublimation.

They are made either of Glass or Earth ; earthen Vessels are most commonly used, by reason that they are cheaper and endure the fire better, and serve very well for common operations ; for in Sublimation, usually, there is no necessity of glass or such Vessels that retain the spirits, but it is sufficient that they be strong and made of good earth, that will endure the fire well, they may be either glazed within, or not, according as the matter to be sublimed is either Liquefiable or not :

But in select operations, where the matter is either precious, or very subtil and spiritual, the glass Sublimatories are to be preferred, and are much more used by good Artists, and in choice preparations, than the other.

The form of the Vessels also vary, according to the matter to be Sublimed, they are sometimes high, and sometimes low, as the matter is more or less volatile ; for if it be more Volatile, the higher Sublimatories are to be used ; if less Volatile, then lower. Sometimes many Vessels are to be used in Sublimation, the one set over the other, and all of them open at the top, save only the uppermost, which must be closed,
and

and hath a pipe at the side, that if any moisture do arise it may distil.

Many Vessels are used to this end, that the more pure and volatile may ascend into the highest, the less pure into the lower, and that the gross and impure may remain in the bottom.

Sometimes there is only a bare Sublimatory used, with only a piece of Lute at the top, with a small vent to preserve the Sublimatory from breaking; sometimes there is a blind-head added to receive the more volatile part of the matter sublimed. Sometimes an Alembick-head with its Receiver is added at the top of the Sublimatory, not only to preserve the Spirits that distil before the Sublimation, but to receive in the neck of the head the matter sublimed, because it cannot easily stick to the sides of the vessel, as in Sulphur, &c.

Sublimation is thus performed.

First prepare the matter that is to be sublimed, either by washing, calcining, burning, boyling, or the like, as the matter requires; then either by it self, or mixed with other materials, put it in your Sublimatory made round or flat in the bottom, that one third part thereof only may be full, which place, either in your Sand-Furnace, that the sand may be three fingers thick, in the bottom and sides of the Sublimatory, or in the naked fire; then fasten with good lute the head or blind-head, (with a hole on the side): and so lute it that no spirits may breath out, save only at the hole for that purpose.

Then give fire by degrees, and when you perceive that all the moisture is vapoured forth at the hole in the head (which may be known by holding thereto, either a piece of Glass, or polishd Steel, to see whether it moistens the same or not); then lute fast the same hole, that the dry spirits exhale not; then increase the fire until you have elevated all the spirits, and perfected the Sublimation.

How Sulphur is sublimed.

Take the best and clearest yellow Sulphur lbij. of common Salt and Hungarian Vitriol, a little calcined, of each half a pound; powder them all a part, and mix them well together; then put them into your Sublimatory, and put on its head; add to it fire of the first degree, until all its moisture be vapoured away; then close the pipe above, and proceed with the fire by degrees, until all the Sulphur be sublimed very subtle. This Sulphur (Chymically called the Flowers of Sulphur) take out of the Alembick, and reiterate the said sublimation, the second or third time, every time adding a fourth part of Salt and Vitriol, calcined as before, and then have you very fine flowers of Sulphur, resisting many diseases. *Rhenanus.*

Another way thus.

Mix equal parts of Sulphur and Colcothar of Vitriol perfectly rubified and dryed, put it to sublime (which operation is performed in eight hours, neither is need of any very great fire); then take the flowers sublimed, and sublime them again with Sugar-Candie only, to the end that it may the better cure the Asthma, and other diseases of the Lungs: Neither need you fear here that the melting of the Sulphur, will hinder the sublimation; for whatsoever way Sulphur is sublimed, either by it self, or with addition, it alwayes melleth.

Another way to sublime Sulphur.

Take Sulphur one part, and common Salt two parts, and put it to sublime in a sublimatory well luted in the naked fire, but with a moderate heat: this way are sublimed the fairest flowers of Sulphur, without the reiteration of sublimation.

Another

Another way thus.

Take the yellowest Sulphur ſſj . of common Salt melted in a Crucible, then caſt into a Mortar, and when it is cold powdered, half a pound, of Hungarian Vitriol purified and calcined, half a pound; powder them and mix them together, and ſet them to ſublime in Sand, put thereon a large head with its Receiver, but let not the ſand be too high, leaſt the heat thereof melt the flowers in the head; give at firſt gentle fire, after three hours the phlegm begins to diſtil, and that laſts about four or five hours; Then increaſe the fire, until the bottom of the Veſſel containing the ſand be red hot: The flowers are at ſeveral times to be taken out of the head, but you muſt alwayes fit a Paper to preſerve them from falling into the ſand, whileſt you remove the head, and alſo ſtop the mouth of the Sublimatory, leſt the Sulphur take fire from the Air, which otherwiſe would happen; then put on the head again and proceed, and let the fire continue ten hours; then let it cool, and add the flowers in the head to the former. The *Caput Mortuum* is porous and brittle, if you lay it on hot coals, and it will not burn, then is all that is good ſublimed.

Mix theſe flowers again with other Salt and Vitriol in the ſame proportion, and proceed as before; ſo do the third time: the oftner you reiterate the ſame, the Flowers do acquire the greater tenuity, and are the more pure; but then you will have the fewer flowers, for of three pounds, three times ſublimed, you have at laſt but 20. ounces.

To Sublime the Flowers of Benjamin.

Take Benjamin and bruife it groſſly, and put it into a Sublimatory; then cloſe the top thereof with a double Paper, rolled about like *Hypocrates* his ſleeve, and afterwards give fire by degrees, till it ſublimeth; then have you the pure ſnow-white flowers, which are no other than the ſweet eſſential ſalt, which oftentimes collect.

Their Use.

They are effectual against the Asthma, and all diseases of the Lungs; the dose is half a scruple in Liquors, or fit Syrups: But they are a Topick remedy against the Pimples and redness of the face.

To Sublime Sal-Armoniack.

Take common Salt as much as you think fit, and fill a Calcining Pot therewith, and cover it, least coals and ashes fall thereunto; set the pot on the ground, and cover the same with coals not burning; then kindle the coals, till they be all on fire, and the pot be red hot; when it is cold, then have you the Salt calcined and prepared.

Then take Sal-Armoniack beaten to powder one pound, scales or filings of Iron one pound, (or ten ounces;) mix them and sublime them with a strong fire; then take that which is sublimed, (and if you please, sublime it again *per se*) and it is now fit to be sublimed with the Salt prepared.

Therefore take what Sal-Armoniack you have sublimed, and twelve ounces of the Salt calcined; mix them well together, and put them to sublime; which last sublimation repeat five or seven times, every time adding new Salt calcined and prepared, and then have you Sal-Armoniack sublimed, fit for any use where it is to be used.

Its Use.

Sal-Armoniack thus prepared is of infinite vertues, as well that it belongeth to the preparation of other Medicines, as that it hath its singular vertues in several diseases.

1. With this Salt is extracted the Sulphur of *Mars, Venus, Antimony*, and other Metals, Stones and Minerals.

2. A Water is made thereof on a Marble-stone in a cellar useful for the Restauration of Metals.

3. This

3. This Salt sublimed is of great use in reducing Metals into Mercury-vive.

4. In all Feavers it is a principal Medicine, for it radically expelleth Feavers, and is a singular good sudorifick: if it be not sufficient, at first it is to be often repeated, and the sick shall be freed from the Feaver; the dose is from 9. grains to 16. grains.

5. For a weak stomach, appetite lost, loathing of food; give to Children 3. grains, to a weak constitution 5. grains, to those that are of full age 7 or 9 grains; every day for nine dayes, and it will a little provoke sweat, and the sick shall be perfectly cured.

OLDIEM & C.

OLDIEM & C.

The Sublimation of Mercury.

Take Mercury, (purged with Salt prepared, and Vinegar, and pressed through Leather) Vitriol calcined till it be red, Salt prepared of each of them one pound; Salt-Petre four ounces; grind them and mingle them together in a stone-mortar with a little Vinegar, so long until the Mercury appear no more alive; when they are all well mixed, put them in a sublimatory well luted; on which place an Alembick-head with a short Pipe; give fire by degrees, according to Art, for 8, or 10. hours; the *Aqua-fortis* that distills over let that be kept, for the second sublimation; to one pound of Mercury sublimed, add of the Salt prepared twelve ounces, and of the calcined Vitriol four ounces; for the third Sublimation, let it be done with Salt alone.

A more perfect way of Subliming Mercury.

Take Mercury of Cinnabar, revived according to Art one pound; dissolve it in common *Aqua-fortis*; then draw off the *Aqua-fortis* by Distillation, or evaporate it till it be dry; then take the Mercury precipitated, and pound it very well in a stone-mortar, (not in a metalline) with an equal quantity of Salt decrepitated, and of Vitriol calcined till it be white; then when all are well mingled together, put them into a Glass-Sublimatory, with an Alembick-head thereon, or else into a

very strong body with a large neck, that the first Fumes may the better go out (otherwise the body may be in danger, if the Regiment of the fire be not cautiously and prudently observed); give fire by degrees until the neck of the body begin to be white; then close up the mouth thereof with Paper, and increase the fire for five, or six hours; and by this means have you a very beautiful Crystalline sublimed Mercury, which being cold, you may separate from the glass, and it is much more fit for Medicine than the former.

To make Mercurius Dulcis.

Take purified Mercury, or the Mercury of Cinnaber revived, six ounces, Mercury sublimed as before, powdered in a Marble-Mortar 8. ounces: Grind them together, adding by little and little the crude Mercury to the Mercury sublimate, mixing therewith a little distilled Vinegar, until no five grains of Mercury appear, and it become of a blackish colour; then put it to sublime in a Sublimatory in ashes or sand (the ashes or sand being but a little above the matter) for five or six hours: when the Sublimatory is cold, cut the Glass about the place between the matter sublimed, and the faces with an Iron-ring red hot, & take out the matter sublimed, and powder it; and sublime it again without addition; (often sublimation add much to its purification) so have you it sufficiently prepared for its happy as well internal as external effects.

Its Vertues.

This Sublimate is the Panchymagogon or Panacea of *Quercitane*, which he reduced into Pills, and were then called the Pills of *Monsieur de la Violette*, and were very much in use, especially in the French-Pox. It is given in all diseases: and also to prevent diseases at all times.

Its dose is from 12. grains to 20. or 30 grains, made up with 4. or 5. grains, of Scammony rightly prepared, or it may be mixed with any other purging medicine; and formed into one or more Pills.

*The best way to prepare Mercury from Metals for the
foresaid Process.*

Take Crude Antimony 2. pound, Tin and Lead, of each three ounces, first melt the metals together, they being melted, add the Antimony by degrees, and so let all flow together; then add of pulverised Tartar 12. ounces, of Salt Peter 8. ounces; mix these together, and cast this mixture by little and little upon the melted matter; which done, take it out of the fire, and you shall find in the bottom 8. or 10. ounces of *Regulus*, which melt again by its self, and you shall have a *Regulus* impregnated with the qualities of Saturn and Jupiter; you may also instead of Tin and Lead, add Silver, Copper, and a little *Sol*: To which *Regulus* add of Mercury sublimate 2. parts, and you shall distill by Retort a Quick Mercury, for the Panacea aforesaid; there will also come forth a certain butery matter, very fit to make *Mercurius vita* thereof.

Another Way.

Make *Regulus* the common way with Iron, whereof take one pound and a half; melt it in a crucible, and add thereto six drams of Copper, 2. ounces of Tin, 2. ounces and a half of Lead, Silver and Gold of each one ounce, and so make an *Electrum*.

Take one part of that *Electrum*, and two parts of Mercury sublimed; distil it by Retort according to Art, and so have you a great quantity of quick Mercury to make the foresaid Panacea, and Universal Medicine; out of the Butter much whereof also is distilled, you make a very excellent *Mercurius vita*, as in the former part of this Book is described.

To prepare the Manna of Mercury, or the white Eagle.

Take purified Mercury, and dissolve it in *Aqua-fortis*, then precipitate it with Sea (or Sea-Salt) water, which precipitate distil in a body in Sand, increasing the fire, till at last the Mercury sublime

to the sides of the Vessel ; when it is cold throw away the feces in the bottom , and take that which is sublimed , and dissolve it and distil it as before , and then have you the Celestial Eagle whiter than Snow , which you may wash in Rose-water , or other Cordial water : It is of very great use in Veneral distempers.

Its dose is from 10, to 15 grains , and purgeth only downwards.

Mercurius Sublimatus Essentified.

Melt an ounce of Gold (purified by solution in *Aqua-Regia*.) with a like quantity of *Regulus Martis Stellatus* ; then when they are cold, powder them very subtilly in an Iron-Mortar, and make an Amalgama with six ounces of Mercury, seven times sublimed , and so often revived, which put in a little Retort, and set it in Sand , and give a moderate fire between the second and third degree for three dayes ; which being ended, distil it with a gentle fire of suppression , and add thereto a Receiver , half full of water , so the Mercury bringeth over with it part of the Gold , and is animated by the Tincture of the *Stellate Regulus*, which Mercury-*vive* is then to be ground with Mercury seven times sublimed, and sublimed into the Celestial Eagle as aforesaid ; whose effects so far exceed the effects of the ordinary preparation , as the Philosophical operation is more laborious than the ordinary.

The Imperial Eagle.

Take Mercury seven times sublimed, Mercury of Cinnabar revived of each four ounces ; mix them and grind them together, until none of the Mercury appear quick ; then put it in a large vessel, and pour on it two pounds of common water, or thereabouts , which stir often together , and after it hath stood 12. hours, decant the water from the matter , and keep it by it self , and pour thereon more water 12. times , observing the same method as before ; then dry the powder in the bottom of the vessel , and sublime it three or four times , to wit , until

no grain of the Mercury ascend quick, which in every Sublimation ought to be separated.

Its dose is to 10. grains, it purgeth very easly, yea the next day after the taking thereof: Its effectual in all venereal diseases.

The Diaphoretick Ruby of Auripigmentum.

Take of the best and clearest *Auripigmentum* one ounce, grind it into a very subtile powder, and sublime it in a Sublimatory with a strong fire, until the bottom of the vessel be red hot, and you shall have in half an hour most beautiful Rubies sublimed about the neck of the Vessel.

Its Use.

They are given from six grains to eight grains in broth or Conserve of Ginger, to provoke sweat in Venereal Diseases, the Scab, and such like.

The same Rubies, ground with an equal weight of Flowers of Sulphur, and digested in a bolt-head in sand or ashes in a fire of the second degree for 18. or 20. do wonderfully dry up Rheumes.

Its dose is from 8. to 12. grains, in the diseases of the Lungs given in Conserve of Roses.

The same powder also moveth sweat.

Another Diaphoretick Ruby of Arsenick.

Sublime Arsenick in a body, twice or thrice in Sand, for five or six hours, until it arise purely CrySTALLINE, always casting away the light powder, that sticks like flower about the neck of the body, for that is the poysonous part of the Arsenick; then powder the CrySTALLINE part, and well mix it with as much of the flowers of Sulphur, and sublime them together into a red mass, which is a specifick Remedy in the diseases of the Lungs.

Its Use.

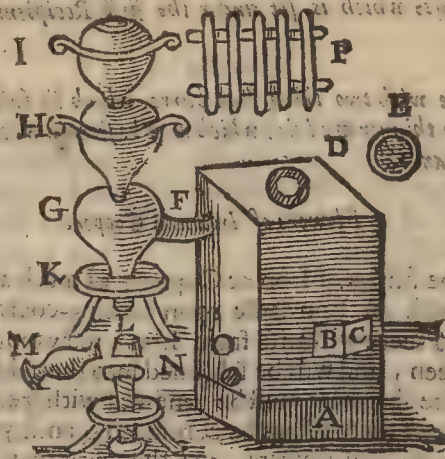
Within the body it is given from six grains to eight grains to move sweat: Outwardly used it cureth all Ulcers, malignant and difficult to be cured.

*How Minerals and Metals may be reduced into Flowers,
and of their virtues.*

Hitherto the flowers of Metals, and Minerals have not been in use, excepting the flowers of Antimony, and Sulphur, which are easily sublimed: for Chymists have not dared to attempt the sublimation of other metals, and fixed minerals, being content with the solution of them with *Aqua-fortis*, and corrosive waters, precipitating them with the liquor of the Salt of Tartar, and afterward edulcorating, and drying them; and being so prepared, they have called them their flowers: but by which flowers I understand the same matter which is by the help of fire without the addition of any other thing sublimed, and turned into a most subtle powder, not to be perceived by the teeth or eyes; which indeed is (in my judgment) to be accounted for the true flowers; when as the flowers which others make are more corporeal, and cannot be so well edulcorated, but retain some saltiness in them, as may be perceived by the increase of their weight, and therefore hurtful to the eyes, and other parts.

But our flowers being by the force of the fire sublimed by themselves, are not only without saltiness, but are also so subtle, that being taken inwardly presently operate, and put forth their powers, *vis.* according to the pleasure of the Physician. Neither is their preparation so costly as the others are.

Metals also, and minerals are matured, and amended in their sublimation, that they may be the more safely taken; but in other preparations they are rather destroyed, and corrupted, as experience witnesseth: how these kind of flowers are to be made I shall now teach, and indeed, of each metal by it self, whereby the Artist in the preparation cannot err, and first thus.



A, Signifies the Ash-hole, which must be as wide as the Furnace, and always open that the fire may burn the stronger.

B, The middle hole of the Furnace for the putting in of coals.

C, The stopple made of stone.

D, The upper hole of the Furnace with a false bottom wherein sand lyes, which is there laid that the cover may lie the closer, and keep in the fumes the better.

E, The Cover which must presently be clapt on as soon as the matter to be distilled is put in.

F, The pipe which goeth out of the Furnace, and to which the Receiver is fitted.

G, The first Recipient for flowers.

H, The second.

I, The third.

K, A Stool whereon the first Recipient rests, in the midst whereof is a hole, through which goeth the neck of the Recipient to which another glass is fitted.

L, The glass fitted to the Recipient for the uniting the Spirits that drop down.

M, Another Recipient united to the former Glass, and into which the united Spirits do run.

N, A stool through the middle whereof goeth a screw for the raising of that glass, which is set under the first Recipient, higher, or lower.

O,

P, The Grate with two thick Iron-barrs, which lie fast, upon which four or five thinner are laid, which may be stirred when the Furnace is made clean.

Flowers of Iron and Copper.

Take of the filings of Iron or Copper, as much as you please, cast them with an Iron-ladle upon burning-coals, viz. scatteringly, and there will arise from Iron a red vapour, but from Copper a green, and will be sublimed into the sublimatory vessels. As the fire abates, it must be renewed with fresh coals, and the casting in of these filings be continued, until you have got a sufficient quantity of flowers, and then you may let all cool: This being done, take off the sublimatory vessels; take out the flowers, and keep them, for they are very good if they are mixed with Unguents, and Emplaisters: and being used inwardly cause vomiting; therefore they are better in Chirurgery, where scarce any thing is to be compared to them. Copper being dissolved in Spirit of Salt, and precipitated with Oyl of Vitrifol, edulcorated, dried, and sublimed, yields flowers, which being in the air resolved into a green balsom, is most useful in wounds and old putrid ulcers, and is a most precious treasure.

Flowers of Lead and Tin.

You need not reduce these metals into small crums, it is sufficient if they be cast in piece by piece, but then you must under the grate put an earthen platter glazed, and filled with water, to gather that which flows down melted, which is to be taken out, and cast again into the fire, and this so often until all the metal be turned into flowers, which afterwards are again, the vessels being cold, to be taken out, as hath been said of the flowers of

Mars and *Venus*. And these flowers are most excellent, being mixed with Plaisters and Oynments in old and green wounds, for they have a greater power to dry, then metals calcined, as experience can testifie.

Of Mercury.

This is easily reduced into flowers, because it is very volatile, but not for the aforesaid reason, because it leaps in the fire, and seeks to descend. And if you desire to have the flowers thereof, mix it first with Sulphur that you may pulverize it, and cast it in mortified. And if you cast into a red hot Crucible set in the furnace, a little quick Mercury, *viz.* by times with a ladle, presently it will fly out, and some part thereof will be resolved into an acid water, which is to be preferred before the flowers in my judgment; but the rest of the Mercury drops into a Receiver. But here are required Glass-vessels, because the aforesaid water is lost in earthen. And this water without doubt doth something in Alchymie. It is also good being applyed outwardly, in the scab, and venereal ulcers.

The Flowers of Zincke.

It is a wonderful metal, and is found in the spagyricall Anatomy to be meer Sulphur, golden, and immature. Being put upon burning coals doth suddenly fly away wholly; it is inflamed also, and partly burns like common Sulphur, with a flame of another colour, *viz.* golden, purple; and yields most gallant white, and light flowers.

The Use.

Being given from 4. 5. 6. grains to 12. they provoke sweat wonderfully, and sometimes vomit, and stools according to the offending matter. The vertues thereof being externally used are also wonderful, for there are not found better flowers; for they do not only speedily consolidate fresh wounds, but also old, such as alwayes drop water, in which cases they excel all other

medicaments : For they are of such dryness, which hath joyned with it a consolidating vertue, as that they do even things incredible. They may be used divers wayes, as to be strewed by themselves, putting over them a stiptick Plaister, or being brought into an Unguent with Honey to be put into wounds ; which Unguents in deep wounds may be boyled to a hardness for the making of small Suppositories, which are to be put into the wounds, which must afterwards be covered with some Plaister, and preserved from the air: Being applyed after this manner they cure fundamentally, being mixed with Plaisters also they do wonderful things.

If they be mixed with Rose, or Rain-water, so as to be united together, and afterwards some of this mixture be sometimes every day dropt into red eyes that water, yielding not to other ophthalmicks, do restore, and heal them.

These flowers being taken up in lint, and strewed upon those places of Children that are galled with their urine (those places being first washed with water) heal them quickly. They heal also quickly an excoriation which is contracted by lying long in any sickness, and is very painful, if they be strewed thereon.

To make Metallical Spirits and Flores by the help of Salt-Nitre and Linnen-cloth.

If metals be dissolved in their appropriated Menstruums, and in the solution (wherein a due proportion of Salt-Nitre must be dissolved) fine linnen rags be dipt and dried, you have a prepared meral, which may be kindled, and (as it was mentioned above concerning the saw-dust) through the burning away and consuming of their superfluous Sulphur, the mercurial substance of the meral is manifested : And after the distillation is ended, you will find a singular purified Calx, which by rubbing coloureth other metals, as that of Gold doth gild Silver, that of Silver over-silvereth Copper, and Copper-Calx maketh Iron look like Copper, &c. which colouring, though it cannot bring any great profit, yet at least for to shew the possibility, I thought it not amiss to describe it.

and

and perchance something more may be hid in it, which is not given to every one to know.

To make the Flowers of Antimony according to Glauber.

Take of Crude Antimony powdered as much as you please; and first make your Furnace red-hot; then cast in at once a pound of Antimony, or thereabouts, *viz.* scatteringly upon the coals; and presently it will flow, and mixed with the coals by the force of the fire will be sublimed through the air, into Receivers like a cloud, which will there be coagulated into white flowers. Note, that when the first coals are burnt up, more must be put in to continue the sublimation, and those must be first kindled before they are put in, lest the flowers be by the dust of the coals arising together with the flowers discoloured, and contract thence a gray colour: but it matters not if you will not use them by themselves to provoke vomiting, because there is no danger thereby, for that colour comes only from the smoak of coals, wherefore you need not be afraid of them: But let him that dislikes this colour, first kindle the coals before he put them into the Furnace, and then he shall have white flowers. Also you must not shut the middle hole through which the coals, and Antimony are cast in, that thereby the fire may burn the more freely: for else the flowers of the superior pots will be yellow and red, by reason of the Sulphur of the Antimony, which is sublimed higher than the *regulus*. Now you may by this way make a pound of the flowers with 3, 4, 5. pound of coals. It is little that goes away from the Antimony, *viz.* the combustible Sulphur, which is burnt, all the rest going into flowers. You must have a care to provide a sufficient quantity of subliming pots, by reason that a large space is required for the sublimation of the flowers.

The flowers that are prepared after this way are sold at a lower rate, so that one pound thereof is cheaper, than half an ounce of those that are made after the other manner: Also they are safer, as being made with an open and free flame of the fire, for they do not provoke vomit so vehemently;
more.

moreover the flowers of the lower pots are not vomiting, but diaphoretical, as if they had been prepared with Nitre, for thus they are corrected by the fire; And by this way at one and the same operation divers flowers of divers operations may be made for the flowers of the lower; pots are diaphoretical, of the middle a little vomitive, but of the uppermost vehemently vomitive. For by how much the more they have endured the fire, by so much the better are they corrected; from whence the diversity of their power proceeds: Wherefore each of them are to be kept by themselves, and the uppermost are for Plaisters or Batter, or Oyl, and those to be made sweet or corrosive thereby; The middle for purging, and vomiting, but the lowermost for sweat, being more excellent than *Bezoardicum Minerale*, or *Antimonium Diaphoreticum* made with Nitre. Truly I do not believe that there is an easier way of making vomiting, and diaphoretical flowers than ours. Now for the use of them, you must know, that those that are vomitive are to be administred to those that are strong, and accustomed to vomit: but to children, and old men with discretion, as hath been said above of the Butter of Antimony: but those that are diaphoretical may be given without danger to old and young, to those that are in health, and to the sick; in any affection that requires sweat, as in the Plague, *Morbus Gallicus*, Scorbutic, Leprosie, Feavers, &c. The Dose of them is from 3. 6. 9. 12. grains to 24. with proper vehicles to sweat in the bed: for they do expel as well by sweat, as by urine all evil humors: And because they that are vomitive are in a greater quantity than those that are diaphoretical, and not so necessary as these, and there may be many more doses out of them, it is necessary to shew you how those that are vomitive may be turned into diaphoretical; and that may be done three ways, the two former whereof I have before shewed concerning the Butter of Antimony made of flowers with Spirit of Salt, the third is this, *viz.* put flowers in a Crucible covered (without luting) lest any thing fall into it, so set them by themselves in a gentle fire, that they melt not, but be made only darkly glow for the space of some hours, then let them cool, for they are become fixed, and diaphoretical; Although they had before

contrasted some yellowness or ash-colour, yet by this means they are made white and gallant, fixed, and diaphoretical: Also these flowers are used in Stiptick Plaisters, by reason of their dry nature, with which they are endued.

Also they are melted into a yellow transparent Glass, neither is there taught an easier way of reducing Antimony by it self into a yellow transparent Glass, where crude Antimony is first sublimed, and being sublimed is melted into Glass.

This Sublimation serves in stead of Calcination, by the help whereof 20 pounds are more easily sublimed, than by the help of the other one pound is brought into Calx.

Neither is there here any danger of the ascending fumes, because when the Antimony is cast into the fire you may be gone, which is a safe, and easie Calcination, whereas the common way requires the continual presence of the Artist stirring the matter, who also takes out the matter when it is once grown together, and grinds it again; by which means he hath much to do, before the matter come to a whiteness; but by our way, the matter is at the first time made sufficiently white, and more than by that common way of calcination and agitation. I suppose therefore, that I have shewed to him that will make Glass of Antimony, the best and hitherto unknown way; which being taught, I hope, there is no man will hereafter, like a fool, go that tedious way of the Ancients, but rather follow my steps: For by this way may any Physitian, most easily be able to prepare for himself vomitive and diaphoretical flowers, and also Glass of Antimony *per se*.

Of those flowers may be made Oyls both sweet and corrosive, and other medicaments, as hath been abovesaid of the Spirit of Salt, and shall afterwards be spoken in the second part.

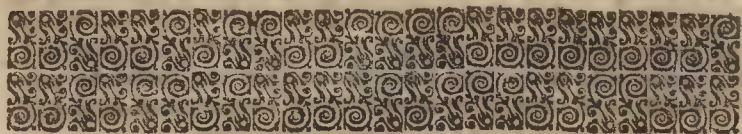
Let him that will make flowers of the *regulus*, fairer than those which are made of crude Antimony, cast it being powdered, into the fire, and in all proceed as hath been said, and he shall have them, &c. for they are easily sublimed. The scory also are sublimed, so as nothing is lost: But he that will make flowers that shall be dissolved in the air into a liquor must add some calcined Tartar, or some other fixt vegetable Salt, and he shall have flowers that will be dissolved in any liquor: but he that will

make red flowers as well those that are diaphoretical as those that are purging, must mix Iron, and he shall have flowers like to Cinnabar: Let him that desires green, mix Copper, if purple, *Lapis calaminaris*.

And thus out of any Mineral may be made flowers, whether it be fixed, or volatile, for it is forced to fly on high being cast into the fire. And these may be used diversly in Chyrurgery, in Plasters and Unguents; for they dry, and astringe potently, especially those that are made of *Lapis calaminaris*. Neither are they to be slighted that are made of the golden, and silver marcasite. Those that are made of Arsenick and *Antipigmentum* are poisonous, but are useful for Painters. Arsenick and *Antipigmentum* being calcined with Nitre, and then sublimed, yield flowers that are safely to be taken inwardly, expelling all poysons by sweat and stool: For they are corrected two ways, viz. first by the Nitre, secondly by the fire in the subliming: they are not therefore to be feared, because that Antimony was poisonous before the preparation thereof: For by how much the greater poysen it was before preparation, so much the greater medicine afterwards.

So also stones, being prepared, are brought into flowers, and many other things, of which we need not say any thing, only let him that pleaseth make tryal thereof.


Of



Of CALCINATION.

BOOK VIII.

What Calcination is, and the several wayes thereof.

1.  *Calcination* is the reducing of a Body into a Calx.

2. By *Geber*, it is thus defined, It is the reducing of a thing into powder by fire, through the deprivation of the humidity of the solid parts, in burning of it.

3. By *Calx*, Chymists understand, any thing made into a fine powder, by taking away its superfluous humidity, (especially Minerals): Also, when the powder or Calx is plainly made impalpable, very subtil to the sense, like fine meal, then it is called *Alcohol*; which word also they use for the very subtil spirit of Wine, rectified with often reiterated Distillations, calling of it the *Alcohol* of Wine.

Calcination is either by Corrosion, or by heat of Fire only.

Corrosion is the Calcination of the matter by Corrosives, and is done divers wayes, but especially four; viz. by *Amalgamation*, *Precipitation*, *Stratification*, and *Fumigation*.

1. *Amalgamation*, is the Corrosion of a Metall by Mercury or Quicksilver; and is when any metal (except Iron) is made into thin plates, and mixed with eight parts, more or less, of Mercury, and made into a mass, alike throughout, that the metal be perfectly dissolved; and when the Mercury is evaporated away over the fire, the Metall is left behind like a thin Calx.

2. *Precipitation*, is the corroding of the matter by *Aqua fortis*, and other acrid Spirits; and is when Mineral and Metalline bodies are infused in a corrosive or other acid water, and thereby corroded and dissolved; either by abstraction of the water, or after some other way are reduced into a Calx.

3. *Stratification*, is the Corrosion of Metals by corrosive powders:

And is performed thus, By filling the Crucible, Box, or Calcining pot, with the laminated Metal and corrosive powders, *Stratum super stratum*; that is, by laying some of the powder in the pot, and then some of the thin laminated Metal, and so proceed till the Vessel be full; afterwards put coals round about it and give it a reverberatory fire, increasing of it by degrees, as the matter requires.

Sometimes you may call it *Cæmentation*, there being but little difference between them.

Commixtion is also when the matter to be corroded is mixed with the corrosive powders, and afterwards, in the fire, is reduced into Calx.

4. *Fumigation* is the Corrosion of a Metall by Fume or Vapour.

And is done divers wayes: In general this shall suffice, that the Metalline body be reduced into thin plates, and that it be hanged to be calcined, over the fume of *Aqua fortis*, Vinegar, or the vapour of melted Lead, or of Mercury, or any other sharp matter, as usually they prepare Ceruse.

Ignition or Calcination by the fire only, is either by *Cinesation*, or by *Reverberation*.

1. *Cinesation*, is the reducing of Vegetable or Animal bodies into ashes, by the violence of fire.

2. *Reverberation*, is the Calcining of bodies in the naked fire, in a Reverberatory Furnace.

To

To this also belongs, the Desiccation of the humidity that is usually in Vitriol, Salt, Allome, &c.

As for the Furnaces and Vessels to be used in Calcination, you shall finde them mentioned and described in each following process, to which they properly belong.

The Calcination of Common Salt.

Put common Salt in a Crucible, or other Earthen Vessel, and when it is almost full, cover it, and set it on burning coals, and there let it stand until it be throughout red hot, and no more crackle; then let it cool, and it is fit to dissolve, &c.

The Calcination of Salt Peter.

Dissolve Salt-Peter in common water, and filter it through Paper, to cleanse it from its filth; then boyl it in a glased vessel, and before it coagulate, scum it; when it is dry, grind it: then put it in a pot, and in a fire of coals, by degrees, melt it; when it is melted, to one pound of Nitre, cast in one ounce of the flowers of Sulphur, by little and little, as long as it will flame, (the blew flame is to be avoided.) This Solution, Filtration, Decoction, Despumation, Coagulation, Liquefaction, and De-flagration of the Salt-peter, if it be three times repeated, it is sufficiently prepared for Physick, it is hereby made more airy, penetrative, diuretick, and less corrosive.

The Calcination of Vitriol.

Let the Vitriol be Calcined till it be white, in an earthen vessel unplased, in a moderate fire, alwayes stirring the same; then increase the fire till it be red: and then it is called the *Colcothar of Vitriol*.

The Calcination of Pumex-stone.

Take Pumex-stone, and heat it, and quench it four or five times in Wine Vinegar, the last time only heat it without quenching; so is it very easily made into Calx, and is then useful for the extraction of the tinctures of Mettals and Minerals.

The Calcination of Crystal.

Set Crystal six hours in a Crucible in the naked fire, then grind it to a fine powder, and mix with it a like quantity of Salt-Peter, and then Reverberate it, in a strong fire, 18 hours; when it is melted, cast it into rain water, or May dew, and that which remaineth undissolved, dry and reduce it into Alcohol; then, with the same water, boyl it until it be as thick as honey, and lay it in the cold, upon glass, till it be dry; then again reduce it into Alcohol, and, if you will, you may set it in a moist place to dissolve; and if any remain undissolved, repeat the said Calcination with Nitre, &c. as abovesaid, until it be made Soluble.

Its Dose is three or four drops, with the like quantity of oyl of Juniper, in some specifick water, against the Stone of the Reins and Bladder.

Another way to Calcine Crystal.

Take cleer and ponderous Crystal, heat it, and quench it in distilled Vinegar, so often until, with the least touch, it fall into powder; then mix it with the like quantity of Salt-Peter, and reverberate it for 18 hours, even till it be ready to melt; then, with often washing, extract the fix Salt of the Nitre, and dry the remaining Crystal, and reduce it into Alcohol.

Its Dose is from half a scruple, to a scruple and a half: It is good in the Stone, Falling-sickness, Disentery, and want of Milk.

But if you will make this yet more subtile, digest it in Spirit of Wine 24 hours, and Distil it by Retort, and that which remaineth fixt, reverberate it, as before; Digest it and Distil it so often, until the greater part ascend with the Spirit of Wine; then Distil of the Spirit of Wine, and that which remaineth in the Vessel, set in a moist place to dissolve into Water or Oyl,

Another and better way to Calcine Crystals

Heat the Crystal red-hot in a Crucible, and quench it in cold water, that it may easily be reduced into powder; or (being powdered) burn it in an open Crucible *per Ignem Rote*, with a like quantity of common Sulphur, until all the Sulphur, by a gradual fire, be burnt away; then wash the Calc with water, and dry it, and mix with it a like quantity of purified Salt Peter; then Calcine that in *igne Rote* till it melt; when it is cold, powder it and boyl it in rain water, and proceed as before.

The Calcination of the Silver Marchasite or Wisnuth.

Reduce the Silver Marchasite into subtile powder, and wash away its blackness, with water so often, until the water flow away clear; then dry it and dissolve it in *Aqua fortis*; Distilled from Salt-Remond Allome. When the solution is clear, pour thereon Spirit of Wine; so, in a moment, will it be precipitated into an Alcohol as white as snow, which ought to be cleared from its Arimony and dried; and again for half an hour ground with common Salt prepared; then washed and dried in the shade on paper, *use it*. *Against the Deformities of the skin (as freckles, sun-burn, &c.)*

To Calcine Allome Take Allome, put it in a crucible, set then on a gentle fire that it melt; and so increase the fire by degrees, till

all

all the humidity be evaporated; and the Allom remain a white, dry, spongy, light Calx.

To Calcine Antimony with Salt prepared.

Take of the best Antimony four pounds, of Salt prepared five pounds, powder them and mix them together, and in a broad earthen pan with a flat bottom upon the fire; stir them well together continually with an Iron Spatula for five or six hours or more, until it leave fuming, and the Antimony remain white and yellowish (but be careful that it melt not, and also of the fume); then grind it to powder, and wash away the Salt, first with hot water, then with cold that which remains dry, which powder sublime per se in a Sublimatory for 10 or 12 hours or more: Reserve the flowers, and grind the *Caput Mortuum*, and reverberate it 40 dayes till it be red, in a close Vessel that the fire be not hindered in the operation; after which Calcination, extract the tincture with Radicated Vinegar; then finish it by Filtration, Separation of the *Menstruum*, and Circulation with Cordial waters.

To Calcine Antimony per se.

Take the best and choicest Antimony, powder it very fine, and set it in a broad earthen pan unglazed over a gentle fire of Char-cole, and there continually stir it with an Iron Spatula, increasing the fire by degrees, till it burn no more blew, nor fume no more, but remains of a pale ash-colour; let the fire be so moderate that it melt not, or if it should happen to melt, take it off and powder it, and so proceed as before. To make this into a *Vitrum*, put it in a Crucible in a melting Furnace, and there let it stand melted until it be converted into a pure red *Vitrum* (which you may prove with an iron rod dipping it therein, and quickly retracting the same again, lest it melt in the Antimony, and so a *Regulus precipitate*) then cast it forth into a brass or copper pan flat in the bottom; and there have you the *Vitrum Antimonii* made without additions, according to *Basilius Valentinus*, mentioned also by *Zwelferum*, *Schroederus*, and others.

Out of which is extracted the true Tincture of Antimony.

Crocus Metallorum, or, The liver of Antimony.

Take Crude Antimony and Salt-Peter, of each a like quantity, beat them small, mix them, and put them into an Iron Mortar, inclining sideway; then kindle the powder with a quick Charcole, or a red hot iron rod, and so will the Antimony be fixed, and deprived of its Arsenical Sulphur; then separate the Salt-Peter, and edulcorate the *Hepar* or *Crocus Metallorum*.

Its use.

From 12 to 20 grains thereof are given, being infused in the water of *Cardus Benedictus*, or other convenient liquor, or in some Conserves; in all Feavers, and Pestilences, and such like effects, wherein you would have it gently purge.

To Calcine Antimony, that it shall purge only per Seceffum.

Take of the best and choicest Antimony, and of Salt decrepitated, of each one pound, grind and mix them together; and reverberate them in a Crucible, well luted and closed, for 12 hours, increasing the fire by degrees; then wash away the Salt with water, so often, until all the Acrimony be taken away; then dry it and grind it.

The Dose is from 25 grains to 35 grains: or, from a scruple and a half, to a scruple.



The Calcination of Mettals.

To Calcine Gold by Amalgamation.

TAKE Gold purified by Cementation, and Amalgamate it with six parts of Mercury, thus, Take laminated Gold, and cut it into small pieces, and put it into a clean Crucible in the fire, that the Gold may be red hot; then heat the Mercury in another Crucible, and pour it on the Gold, and mix them with a stick that they may unite together; then cast it into cold water, and wash it very well, and press out the superfluous Mercury through Leather, that it may remain as a hard mass, which must be ground well with half its weight of prepared Salt, in a glass Mortar, that nothing of the *Amalgama* appear: This put in a Crucible covered and luted, with only a small hole on the top, and reverberate it a natural day, but let not the Gold melt; this done, you shall finde the Gold calcined, but the Mercury and Salt fumed away, if the Salt were rightly prepared, and the degrees of the fire rightly observed; otherwise some of the Salt remains, which must be washed away, and the Calx dried: Then *Amalgama* the Gold again, and press it through the Leather, as before; and mix therewith half its weight of Sulphur *vive*, or flowers of Sulphur, grind them very well together, and put them in a glased earthen pan, and pour thereon the best spirit of Wine without Phlegm, and burn it; after the spirit of Wine and Sulphur are burnt away, you shall find the Gold very spongy and light, especially if you twice or thrice repeat the operation. Some grind the *Amalgama* with flowers of Sulphur, and put it in the fire in a Crucible, continually stirring it with an Iron

Iron-rod, until the Mercury be fumed away: And this is the Calcination of Gold, which may very well serve in the preparing of *Aurum potable*, and such like Chymical operations.

The Calcination of Gold by Cementation.

Before the Gold be amalgamed and calcined as aforesaid, it ought to be cemented, either with the Common or Royal Cementation.

The Common Cementation.

Take the powder of Tyles eight ounces, Salt prepared four ounces, white Vitriol two ounces, Salt-Peter and Verdigrisee of each half an ounce; mix them.

The Royal Cement.

Take the powder of Tyles four parts, Sal-Armoniack, Sal-gemme, and common Salt prepared, of each one part; mix them well altogether, and moisten it with urine (some neale the Plates of Gold in the fire before they use them with the cement, that whatsoever filth sticketh to it be burnt off, that the cement may have the better impression). All things being rightly prepared, equally lay a part of the powder of the Cementing-pot or box, about a fingers thickness, then lay the Plates moistened with Urine, in that order and manner that they neither touch one the other, nor the sides of the Vessel: Having thus laid the first order of Plates, lay more of the Cementing powder about half a fingers thickness, and then more plates, and more powder, and so proceed till the Box be either full, or all your Plates used; and at last let there be of the powder a fingers thickness at the top; then lute on a cover if it be a common Cement, without leaving any vent or hole; but if it be *Cementum Regale*, then let there be a small hole in the cover, give fire for 24. hours, so that the Cementing-pot or Box be alwayes red-hot; when the work is ended, take the Plates and wipe off the Powder sticking to them, with a Hares-foot, and wash them with urine, and dry them.

The most perfect Cementation of Gold is that which follows.

Melt Gold with twice its weight of the best Copper reduce it into plates as thin as paper, which cement for 40. or 50. hours in a strong fire, by laying *Stratum super Stratum* (as before is said) with the powder of Tyles, common Salt, Colcothar, Verdigrisee, and a little Sal-Armoniack, all mixt with strong Vinegar; in this *Examen*, all the Copper is consumed, its incombustible Sulphur, and tincture remaining in the Substance of the Gold, as *Geber* testifieth in his 18. Chapter of Furnaces, that out of Copper is extracted a most pure tinging and fixt Sulphur.

The Calcination of Gold by Aqua-Regis.

That your labour be not too tedious, and that your Gold be most perfectly purified, dissolve an ounce of Hungarian, or other choice Gold in *Aqua-Regia*, made of pure Nitre and Sal-armoniack. of each a like quantity, according to Art; then gently decant what is dissolved, that the white earth which remains in the bottom undissolved may be separated (which reduce with Borax, and it is a white metal, that will be dissolved in common *Aqua-fortis*) then put your Gold dissolved into a large Glass with a short neck, and add thereto five or six times so much common water, and heat the same in Sand till it boyl; then add thereto two ounces of Mercury first made hot; and if in two hours the *Aqua-Regia* wherein the Gold is dissolved, be not strong enough to dissolve the Mercury, add of common *Aqua-fortis* as much as is sufficient to dissolve the same; then add other two ounces of Mercury, which likewise dissolve, until you see all the Gold precipitated into a spongy mass in the bottom of the vessel, and the Mercury dissolved into a clear and transparent water, which you must decant while it is hot, and gently wash the Gold with warm water, until it be deprived of its acidity, which will be much more purified, and with less labour and cost, than with Cement or Antimony: I have sometimes purified Gold by Antimony, which was very beautiful and

and exceeding splendid, yet when I dissolved it, I separated from it a little white earth, whence it appears, that this *Examen* is much more exact, than that which is made either by Cement, or by Antimony.

The Calcination of Silver by Aqua-fortis.

Dissolve Silver in *Aqua-fortis*, pour thereon Salt-water, and the Silver will precipitate, to the bottom of the body, into a pure white Calx, which must be edulcorated by often washing the same with common water, and then dried: If to one ounce of this Calx, you add of Salt prepared two ounces, and Sal-armoniack two drams; mix them well together in a Glass-mortar, and reverberate them 8. dayes; you may extract the Tincture with the Alcohol of Wine, and circulate it: It is good against Madnes and other diseases of the Brain.

To Calcine Silver by Fumigation.

Lay the Plates of Silver over a Crucible wherein Sulphur is burning; let them be often turned, and that which is burned and calcined, separate with a Spatula, till all be calcined, then reverberate the Calx.

The Calcination of Copper by Aqua fortis.

Dissolve Copper in *Aqua-fortis*, and add thereto warm water, with a little Iron or Silver, and it will be precipitated to the bottom; then abstract again the *Aqua-fortis* by Distillation.

Another way to Calcine Copper.

Take the Plates of Copper, and reverberate them in a Potters Furnace, where they are easily reduced into a Calx.

Or,

Take the Plates of Copper, and lay them in a Crucible *Stratum super Stratum*, with an equal part of the powder of Sulphur, and let them be reverberated three or four hours into a *Crocus venetis*.

Another way to make Crocus Veneris.

Take the thin Plates of Copper, and lay them *Stratum superstratum* in a firm Earthen or Iron-pot with prepared Salt, and by little and little heat the Pot of a gentle red heat; then cast them into a vessel full of cold water, and cleanse the Plates from their blackness, and the Salt very well with Iron Spatulaes; Then when they are dry, calcine them with Salt as before, and cast them into cold water, and so proceed as you did with the other; then let the Water (wherein the Plates were quencht) be mixed with hot-Water, to take away all its saltiness, and the *Crocus Veneris* will be left in the bottom very red, like unto bloud, which being carefully cleansed by washing away its saltiness, dried and ground; Skilful Chyrurgeons diligently preserve it to make their Stiptick Emplastums withal, which they call Opo-deloch.

The Calcination of Iron.

Take the thin Plates or filings of Steel, very well cleansed from their filth, take thereof two pounds, of Salt prepared three pounds; mix them well together, and reverberate them in an Earthen vessel, for a natural day; take out the Mass, and grind it, dissolve it in hot-water, and wash it so often, until it be freed from all its saltiness and earthliness; then let it be dried and reduced into a subtile powder by grinding and searcing it; then reverberate it for eight or ten days, until the superficies thereof, be elevated into a very red impalpable *Crocus*, which take off, and reverberate the rest so often, and until the whole be reduced into a *Crocus*: Let the Earthen vessel containing the matter, have a Cover, lest ashes fall on the *Crocus*, yet high enough, that the flame may have its free passage between the vessel and cover.

But the best *Crocus Martis*, and that which is most excellent for Physical use is, when only the filings of Steel, without the addition of Salt, or any other heterogeneal thing,

thing, is converted into a fine flower, by only a reverberatory fire, and afterward cleansed from its impurities, by washing of it in water ; for that which is made with Corrosives, as Salt, &c. is not without some hurtful quality : But the operation by Reverberation is better and speedilyer performed, if before it be put in the Reverberatory, the steel filings be sometimes sprinkled with boyes urine ; for, by this means as it Reverberateth, it dayly ariseth into a very fine red flowre, which is dayly to be taken off, lest you loose it by the swiftnes of the reverberating flame, or lest it loose its red colour, and change it into a blackish

The use of *Crocus Martis*, is usually internal, to stop the flux of the belly, Diarrhea, and Disentery, but must be cautiously used ; for oftentimes such Astringents not discreetly administered, bring greater evils ; wherefore, they that use it, ought first to be purged by medicines attenuating and cleansing the belly. Its external use is, in drying up Ulcers and Wounds.

To make Crocus Martis by Aqua Fortis.

Dissolve the filings of Steel one ounce, in eight ounces of *Aqua Fortis*, digest it for a night : then distil off the *Aqua fortis* in sand, and you have an ounce and half of very red *Crocus* ; which, that it may acquire its astringent vertue, it must be Reverberated three or four hours ; so may it safely be used, as well within, as without the body.

To make Crocus Martis by Cementation.

Take fresh *Calx vive*, as much as you need, and moisten the same with mans urine, until it be like pap ; then cover the bottom of the Cementing-pot therewith about a finger thick ; then lay thereon the filings of Steel, and so, *Stratum super stratum*, fill the Vessel, and firmly lute it ; when all is ready, place it in the Cementing-Furnace, and administer thereto a continual fire, from the third to the fourth degree, for 24 hours ; then take out the Vessel, and beat the matter well in a Mortar, and searce it that it be made a very subtile powder ; and when you have washed away all the *Calx vive* from the Steel, with hot water,

water, and dryed the remaining matter, then have you a most excellent *Grocus Martin*.

After the same manner may be made *Grocus Veneris*, which may serve for many operations.

Another way.

Take filings of Steel and Sulphur, of each equal parts, grind them together, and sprinkle them with water, until it be a soft mass, then dry the same; afterwards put it in a large Crucible, in a moderate fire, continually stirring the same with an Iron rod, until all the Sulphur be consumed; then abstract the red *Grocus* with rain water.

Its dose is one dram.

The Calcination of Saturn or Lead.

Melt Lead in an Earthen or Iron Vessel, and cleanse it from its *Scoria* or filth arising thereon; then increase the fire that the Vessel be red hot, and by continual stirring it with an Iron Spatula, reduce it into a Calx, which afterwards scarce: But if you will then reverberate it, it will be converted into *Minium*.

The Calcination of Tin.

Take of *English Tin*, not sophisticated (which is known by the weight and malleableness thereof) four pounds, melt it in a pan of a flat bottom, and purge it from its *Scoria*; then cast therein a little Salt armoniack, and increase the fire that the pan be red hot; then add thereto one pound and a half of prepared Salt, and stir it so long with an Iron Spatula, till it be reduced into a Calx: which, by a strong fire, you may reduce again into a body, whereby it is cleansed from its impurity and blackness. Then Calcine it as aforesaid again, with one pound of prepared Salt, and wash the Calx from its saltiness, and reverberate it eight dayes, and it will be converted into Alcohol.

It may also be Calcined without the addition of Salt, as before is said of Lead, which seemeth to be the better way.

The Calcination of Mercury.

Dissolve Mercury in *Aqua fortis*, and by the adding thereto of Salt water, it will precipitate into a white powder; the dissolvent pour off by inclination, and that which is precipitated, cleanse it from all its saltiness and crimony, by many ablutions and by digestion; then dry it, and wash it with Rose water, and dry it again.

Its inward Dose is from 8 grains to ten, especially in Venereal distempers. It purgeth only downwards.

Red Precipitate of Mercury.

[Dissolve Mercury in *Aqua fortis*, and after the dissolution, evaporate the *Aqua fortis* in a strong fire, till it be dry, and in the bottom of the Vessel will remain the Precipitate in a red powder.

It is generally used in outward administrations, but seldom or never used inwardly.

The best way to Precipitate Mercury.

Take purified Mercury 4 ounces, Oyl of Sulphur rectified 8 ounces, mix and digest them two dayes in sand; then distil it by Retort, with three Cohobations; at last, with a very strong fire, that the Retort may be red hot; take out the white mass, and grind it, and wash it oftentimes with hot distilled water, until the Precipitate turn to a very yellow powder; upon which burn spirit of Wine three times.

This may be safely given within the body, from 3 or 4 grains to 6, in purging extracts or conserves of Roses. It is good in a Virulent Gonorrhœa, French-Pox, &c.

To Precipitate Mercury in a moment.


Put Emery powdered into a Crucible, in a very strong fire, for four hours, until it begin to vitrifie and stick to the sides of the Crucible; then take it off from the fire, and grind it to a very subtil powder, and put into a glass body; to which pour *Aqua regis* rectified, and digest it in heat for 24 hours; then pour off the tinged water, and add more until you have extracted all the tincture; then distil off the tinged waters to an oylinefs; of which Oyl take one ounce, and pour it upon 4 ounces of crude Mercury, and so the Mercury will in a moment be Precipitated, and not adhere to the Oyl: Then if you distil it with a strong fire, after the exhalation of the Oyl, some of the Mercury will sublime, but the greatest part will remain fixt.

Its use is in the Augmentation of Sol, and to make red *Vitrum*.

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FINIS.

THE
London-Distiller,

Exactly and truly shewing

The way (in words at length, and not
in mysterious *CHARACTERS* and
FIGURES) to draw all Sorts of

S P I R I T S
AND

Strong-Waters:

To which is added

Their Vertues, with Additions of many Excellent
W A T E R S.

L O N D O N,

Printed by *E. Cotes*, for *Thomas Williams*, at
the Sign of the Bible in *Little-Britain*,

1 6 6 4.

London-District

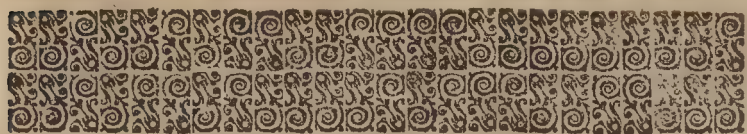
The following is a list of the names of the persons who have been elected to the office of Justice of the Peace for the year 1842.

24th April 1842

Strope-Waters

The following is a list of the names of the persons who have been elected to the office of Justice of the Peace for the year 1842.

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THE
LONDON-DISTILLER:

OR,
Rules and Directions for extracting
and drawing of *Low-Wines* and *Spirits*,
to be Re-distilled into *Rich Spirits*,
Strong Waters, or *Aqua-vita*.



Hereas some of the Professors of Distillation, in and about *London*, have heretofore usually drawn *Strong-waters*, and *Aqua-vite*, &c. out of *Wines*, *Low-wines*, and *small Spirits*, &c. by one alone immediate extraction, operation, or distillation, (contrary to the most approved form of working in this our Art) and have been so opinionated of their own hereditary erroneous ways, that they have esteemed the manner and order here taught, to be altogether unnecessary and improvident, in that there is here required *Re-distillation*, which they have ever thought to be superfluous: Not considering, that what they save by their seeming thrift, they lose double in the excellency of their Wares, and otherwise. Wherefore that such may not only acquit themselves of an aspersi-
on of ignorance (not undeservedly cast upon them) but also vindicate both their own, and the Companies reputation, for time to come: The directions following are henceforth by them and every Member of the Company, and their Successors, duly and exactly to be observed and practised from time to time for ever hereafter.

The London-Distiller.

That all Wines, Lees of Wines, Low-Wines, and Spirits, under proof whatsoever (intended for making of rich or high Spirits, Strong-Waters, or *Aqua-vita*, &c.) be first distilled extracted, or drawn into strong Proof-Spirit, whereby they may be corrected and cured of their natural, harsh, distasteful, unsavoury, or evil qualities, before they be compounded with ingredients, or extracted and drawn into rich or high Spirits, Strong-waters, or *Aqua-vita*; according to Art, and as is required in the ensuing Rules.

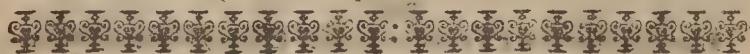
And because many gross absurdities have been frequently practised in adulterating some, and abusing others, of the materials used in Distillation, and otherwise by *Distillers*, by such as only respect their own particular gain; regarding neither the profit or credit of *Distillers*: that have been necessitated to make use of such their ill-conditioned Wares; Wherefore that these grievances may be removed for time to come, the Directions following are strictly to be observed and practised by all the Members of this Company and their Successors from time to time for ever.

That no After-worts or Wash (made by Brewers, &c.) called *Blew John*, nor musty, unsavoury, or unwholesome Tilts; or Dregs of Beer or Ale; nor unwholesome or adulterated Wines, or Lees of Wines; nor unwholesome Sugar-waters; musty, unsavoury, or unwholesome returned Beer or Ale; nor rotten, corrupt, or unsavoury Fruits, Drugs, Spices, Herbs, Seeds, nor any other ill-conditioned materials of what kind soever, shall henceforth be distilled, extracted or drawn into small-Spirits, or Low-wines, or be any other wayes used, directly or indirectly, by any the Members of this Company, or their Successors, at any time hereafter for ever.

And whereas of late times the Small Spirits, or Low-Wines, made and sold, as well in and about *London*, as elsewhere in this Common-wealth, have been generally complained of, for their mean, weak, and poor condition; whereby many inconveniences have fallen upon most of the *Distillers* in general; and that not through the alone practises of such, as have no just title to, or interest in this corporation; but even by some of the *Distillers* themselves; who (notwithstanding their pretences of being necessitated

efficated thereunto) have justly deserved reproof, for yielding to be Actors in a thing of such ill consequence to *Distillers* in general. Wherefore, that those abuses and disorders may now be taken away, and the like prevented for time to come, the ensuing Rule is duly to be observed and practised.

That no Small-spirits, or Low-wines, shall henceforth be distilled, extracted, or made, and be allowed to be sold, put to sale, or used by any of the Members of the Company, or their Successors: but such only, as out of which, by one alone re-distillation, extraction, or operation, may be produced in quantity, at least one third part thereof, of good strong Proof-spirit, such as is required in the Rules ensuing, for making rich, or high Spirits, Strong-waters, or *Aqua-vite*, &c. under such pains, penalties, and punishments, as by the Laws of the Common-wealth, Ordinances, or Orders of the Company, or otherwise, may be imposed or inflicted on the contemnners, neglecters, or opposers of these Directions.



Rules and Directions for the Company of Distillers of *London*, in general:

But more especially for such of them, as now do, or hereafter shall make Vinegars, &c.

WHereas upon due examination it hath plainly appeared, That many insufferable inconveniences have of late fallen upon this Company, and their Trade, in general; by reason of the disorderly and abusive expence and imployment of Brewers After-worts (called Wash;) Insomuch, that thereby not only those of this Company that have had no hand herein, but even the Distillers themselves that have been the Delinquents, have intolerably suffered both in their Reputation and great decay of their Trades, by these their alone inconsiderate practises. For Reformation of the present disorders and abuses, and future pre-

vention of the like, these ensuing Admonitions and Directions are strictly to be observed and practised, *viz.*

That no Member or Members of this Company, or their successors, nor any of them, at any time hereafter, for ever, by any way or means whatsoever (directly or indirectly) shall or may, use, dispose, convert or imploy, any After-worts (or Wash, made by the Brewers, or others) into Vinegar, Beer-eager, or Ale-eager, or either of them; or to or for any other use or imployment whatsoever, except only to distil the same into Low-wines, or Spirits, to be redistilled into Proof-spirit for the uses aforesaid, according to the true intent and meaning of these Directions, as they and every of them respect their Oaths by them taken when they were made free, and received into this Incorporation;) And will undergo the penalties provided, or to be provided, by the ordinances of this Company, or otherwise, to be imposed or inflicted on the Contemners, Neglecters, or Opposers hereof.

Rule I.

Provide three sweet Tuns (or smaller Casks) place them orderly on scantlings; provide good sound white Rape, and such well conditioned liquid Materials as are proper for this use, what sufficeth (not musty in any case.) Then number your Tuns 1, 2, 3. Fill Tun 1, with Rape within six inches of the Bungue, stop the Bungue with Cork or Wood very close, and let it stand, and in few dayes it will gather heat; then being conveniently hot, fill up the vessel within three inches of top full, with your liquid materials without Dregs; stop it close again. And at that instant, in like manner as before, fill Tun 2, with Rape, after a few days, that will be hot as the former was; then finding it conveniently hot, draw off Tun 1, and put it into Tun 2, and stop both close: At the present fill Tun 3, with Rape, and order it in every respect, as you did the former. And when Tuns, 1 and 3, have gathered heat sufficient, fill up Tun 1, with fresh liquor (as at first) and draw off Tun 2, and put it into Tun 3, and so let Tun 2, gather sufficient heat again; then draw off Tun 1, and put it into Tun 2. And at that present, you may draw off Tun 3, and put it into a store-Cask; for having passed three times through
the

the Rape, it is thereby become to be good merchantable Ware.

And so in like order, supply one Vessel from another, till you have finished your work according to Art.

When all your liquid Materials are spent, so that you have no more to continue your work; then be sure your Tuns stand neer full, till you are provided of more Liquor, to put upon your Rape; for if your Rape (standing dry) should wax hot, you having nothing proper to supply the same, your Rape will soon decay, and be utterly spoyled.

In Summer or warm weather, the Rape will gather sufficient heat in two or three days; but in Winter it will require more time.

Rule I I.

Take 20 Quarters of good sound Mault, convert it into 100 Barrels of good serviceable Ware; (at the most) you must allow to this quantity, good sweet Hops at least 56 pound. And being well wrought according to Art, put it into sweet Casks, (sweet Oyl-Buts are best) fill them within 8 inches of the Bungues, (being laid upon Scantlings in the Sun) let not the head work over at the Bungues, and it will sink to the bottom; Prepare little covers of wood fit to cover the Bungues, and larger covers to lay over them, to defend it from Rain falling into the Cask. Let the Bungues stand open only, when the Sun shines hot upon the Cask; but in close or wet weather, and nights, let both covers be alwayes kept on.

When the first Head of the Liquor is saln, then draw it from the Lee, into another clean sweet Cask; and so afterward from Cask to Cask, as there shall be cause, till it come to perfection: Then draw it off into another sound Cask, and so house it for use.

The largest Cask are the fittest to house, and keep Wares in for store.

If your Wares grow long and ropy, then put a fit quantity of Allum into it, work it well together according to Art, and it will grow short again.



THE
LONDON-DISTILLER:
OR,

Rules and Directions for Preparing,
Composing, Distilling, Extracting, and
making of rich Spirits, Strong-Waters,
Aqua-vitæ, &c.

CHAP. I. *Of Aqua-vitæ, the first sort.*

The greater quantity.

Take strong Proof-spirit 10 Gallons, Aniseeds bruised one pound, distil them into strong Proof-spirit according to Art.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Aniseeds bruised 1 ounce 4 drams; distil them into strong Proof-spirit according to Art.

CHAP. II. *Aqua-vitæ, the second sort.*

The greater quantity.

Take strong Proof-spirit what sufficeth, Aniseeds 2 pound, Caraway-seeds, Coriander-seeds, ana 4 ounces; distil them into strong Proof-spirit according to Art.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Aniseeds 3 ounces and a quarter, Caraway-seeds, Coriander-seeds, three drams; distil them into strong Proof-spirit according to Art.

CHAP.

CHAP. III. Of Aniseed Water.

The greater quantity.

Take strong Proof-Spirit 10 gallons, Aniseeds the best bruised five pound, distil them into strong Proof-Spirit; dulcifie it according to Art with five pound of white Sugar.

The lesser quantity.

Take strong Proof-Spirit what sufficeth, Aniseeds the best bruised 8 ounces, distil them into strong Proof-Spirit; dulcifie it according to Art with 8 ounces of white Sugar.

Aniseed water strengtheneth the Stomach, breaketh flegm, and helpeth digestion.

It is also excellent against the Tisick, and shortness of breath, and against wind in the Stomach and Body.

CHAP. IV. Of Angelica Water.

The greater quantity.

Take strong Proof-Spirit what sufficeth, Angelica roots a pound and a half, or Angelica hearb green 7 pound and a half, Aniseeds 16 ounces; slice the roots thin, or bruise them and the seeds, distil them into strong Proof-Spirits; dulcifie with five pound of white Sugar.

The lesser quantity.

Take strong Proof-Spirit 8 pound, Angelica roots 2 ounces and a quarter, or Angelica hearb green 12 ounces, Aniseeds 1 ounce 5 drams; slice the roots thin, or bruise them and the seeds; distil them into strong Proof-Spirit; dulcifie with 8 ounces of Sugar.

Angelica water is very cordial, strengtheneth the Stomach and inward parts: and is a good preservative against the Plague and other infections.

CHAP. V. Of Wormwood Water.

The greater quantity.

Take strong Proof-Spirit 10 gallons, Aniseeds bruised one
B b b pound

pound, Wormwood common, leaves and seeds, stript, and dry 2 pound; distil them into strong Proof-spirit according to Art; dulcifie with white Sugar 5 pound.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Aniseeds bruised 1 ounce and 5 drams; Wormiwood common, leaves and seeds stript, and dry 3 ounces and an half, distil them into strong Proof-spirit according to Art; dulcifie with white Sugar half a pound.

Wormwood water consumeth and breaketh wind, killeth Worms; hindereth Vomiting, provoketh appetite, and strengtheneth the Stomach.

It is also a great Cordial, and is very good against pains of the head proceeding of a cold cause.

CHAP. VI. Of Balm Water.

The greater quantity.

Take strong Proof-spirit what sufficeth, Hearb-balm dry 3 pound, Aniseeds 1 pound; distil them into strong Proof-spirit according to Art; dulcifie with white Sugar what sufficeth.

The lesser quantity.

Take strong Proof-spirit 8 pound, Hearb balm dry 4 ounces and an half, Aniseeds 1 ounce 5 drams; distil them into strong Proof-spirit according to Art; dulcifie with white Sugar eight ounces.

Balm water is good against the infirmities of the Mother, and is very comfortable for women in the time of their pains; to take a little of it, for the sooner and safer provoking of a speedy delivery.

It is also a Cordial and strengtheneth the heart.

CHAP. VII. Of Mint Water.

The greater quantity.

Take strong Proof-spirit 10 gallons, Spear-Mint dry 3 pound, Aniseeds best 1 pound, distil them into strong Proof-spirit; dulcifie with white Sugar 5 pound.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Spear-Mint dry four ounces

ounces and three quarters, Aniseed 1 ounce and 5 drams; distil them into strong Proof-spirit; dulcifie with white Sugar what sufficeth.

Mint water comforteth and strengtheneth the Stomach, Heart, Liver, and Spleen, helpeth concoction, and is good against vomiting.

CHAP. VIII. Of Rosemary water.

The greater quantity.

Take strong Proof-spirit what sufficeth, Rosemary stript and dry 30 ounces, Aniseeds of the best 16 ounces; distil them into strong Proof-spirit; dulcifie with white Sugar what sufficeth.

The lesser quantity.

Take strong Proof-spirit 8 pound, Rosemary stript and dry 3 ounces, Aniseeds of the best 1 ounce 5 drams; distil them into strong Proof-spirit; dulcifie with white Sugar 8 ounces.

Rosemary water is very good against Dysentery, or Bloudy-flux proceeding of a cold cause, either drunk, or three spoonfulls thereof administered in a convenient Glister.

It also preserveth from vomiting, strengtheneth the Stomach, quickneth the Sight, and comforteth the Brain.

CHAP. IX. Of Limon, or Orange Water.

The greater quantity.

Take strong Proof-spirit what sufficeth, Limon or Orange pills dry 30 ounces, Aniseeds of the best 16 ounces; bruise the pills and seeds; distil them into strong Proof-spirit according to Art, dulcifie with white Sugar 5 pound.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Limon or Orange pills dry 3 ounces, Aniseeds of the best 1 ounce 5 drams, bruise the pills and seeds; distil them into strong Proof-spirit according to Art; dulcifie with white Sugar 8 ounces.

Limon water strengtheneth and reviveth the feeble Spirits aromatizeth the Stomach, and is a great Cordial.

It also openeth obstructions, exceedingly breaketh wind in the Stomach, is as an healing Balsam to all the inward parts, and is a great restorative to mans Nature.

CHAP. X. Of Stomach water the less.

The greater quantity.

Take strong Proof-spirit what sufficeth, Spear-Mint dry, Lovage roots dry, Aniseeds of each 1 pound, Calamus Aromaticus, Ginger, sweet Fennel seeds, Imperatoria roots, Wormwood dry and stript, of each 8 ounces; Caraway seeds, Coriander seeds, of each 6 ounces; Cummin seeds, Cloves, of each three ounces; bruise them that are to be bruised: distil them into strong Proof-spirit according to Art; dulcifie with white Sugar 5 pound.

The lesser quantity.

Take strong Proof-spirit 8 pound, Spear-Mints dry, Lovage roots dry, Aniseeds of each 1 ounce 5 drams; Calamus Aromaticus, Ginger, sweet Fennel seeds, Imperatoria roots, Wormwood dry and stript, of each 7 drams; Caraway seeds, Coriander seeds, of each 5 drams; Cummin seeds, Cloves, of each 2 drams and an half; bruise them that are to be bruised, distil them into strong Proof-spirit according to Art; dulcifie with white Sugar 8 ounces.

CHAP. XI. Stomach Water the greater.

The greater quantity.

Take strong Proof-spirit 10 gallons, Calamus Aromaticus six ounces; Guaiacum green Bark, Aven roots dry, Galingale of each 4 ounces; Citron pills dry, Orange pills dry, white Cinamon, of each three ounces; Wormwood Common dry, Wormwood Roman dry, Spear-Mint, Rosemary tops, Costmary, Sweet Marjoram, Wild Thyme, all dry, of each 2 ounces; Nutmegs, Cinamon, of each 2 ounces and an half; Cubebs, Cardamums, of each 1 ounce and an half; sweet Fennel seeds, Coriander seeds, of each 5 ounces; Aniseeds a pound and half; bruise them all that are to be bruised; distil them into strong Proof-spirit; dulcifie with white Sugar ten pound according to Art.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Calamus Aromaticus 5 drams, Guaiacum, green Bark, Aven roots dry, Galingale, of each,

each 4 ounces; Citron pils dry, Orange pils dry, white Cinnamon, of each 3 drams and a quarter; Wormwood Common dry, Wormwood Roman dry; Spear-Mint, Rosemary tops, Costmary, sweet Marjoram, Wild Thyme, all dry, of each a dram and half; Nutmegs, Cinamon, of each 2 drams; Cubebs, Cardamums, of each a dram and a quarter; sweet Fennel seeds, Coriander seeds, of each half an ounce; Aniseed 2 ounces three drams: Bruise them all that are to be bruised, distil them into strong Proof-spirit; dulcifie with white Sugar 16 ounces according to Art.

CHAP. XII. *Marjoram Water.*

The greater quantity.

Take strong Proof-spirit what sufficeth, sweet Marjoram dry 3 pound, Aniseeds 16 ounces, Caraway 4 ounces, *Calamus Aromaticus* 6 ounces; bruise them, distil and dulcifie with white Sugar what sufficeth according to Art.

The lesser quantity.

Take strong Proof-spirit 1 gallon, sweet Marjoram dry five ounces, Aniseeds 1 ounce 5 drams; Caraway 3 drams and a quarter, *Calamus Aromaticus* 5 drams, bruise them, distil and dulcifie with white Sugar 8 ounces according to Art.

Marjoram water is good against the infirmities of the Liver and Spleen, causeth freeness of breathing, and strengtheneth the Stomach and inward parts.

CHAP. XIII. *Uqueback.*

The greater quantity.

Take strong Proof-spirit 10 gallons, Aniseeds 1 pound, Cloves 2 ounces, Nutmeg, Ginger, Caraway seeds, of each four ounces: distil them into strong Proof-spirit according to Art; then add to the distilled water Licorice Spanish, Raisins solis of each 2 pound; bruise the Licorice and Raisins; dulcifie with brown Sugar 5 pound; stir them well together, and so let it stand ten dayes, and then (being fine) draw it off and keep it for use.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Aniseeds 1 ounce 5 drams, Cloves a dram and half, Nutmeg, Ginger, Caraway seeds, of each 3 drams, distil them into strong Proof-spirit according to Art; then add to the distilled water Licorice Spanish, Rasins solis, of each 3 ounces a dram and half; bruise the Licorice and Raisins; dulcifie with brown Sugar 8 ounces, stir them well together, and so let it stand ten dayes, and then (being fine) draw it off and keep it for use.

Usquebach cureth the infirmities of the Lungs, warmeth the Stomach, and causeth expectoration.

CHAP. XIV. *Balsamint Water.**The greater quantity.*

Take strong Proof-spirit what sufficeth, Balsamint dry two pound, Aniseeds best 1 pound, Caraway seeds 4 ounces, Limon pils dry 8 ounces; bruise them that are to be bruised, distil them into Proof-spirit; dulcifie with white Sugar five pound according to Art.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Balsamint dry 3 ounces a dram and half, Aniseeds best one ounce 5 drams, Caraway seeds 3 drams, Limon pils dry six drams and an half; bruise them that are to be bruised; distil them into proof-spirit, dulcifie with white Sugar 8 ounces according to Art.

Balsamint water comforteth the Stomach and expelleth wind.

CHAP. XV. *Rosa solis.**The greater quantity.*

Take strong Proof-spirit 10 gallons, Cinamon of the best 8 ounces, Cloves 2 ounces, Nutmegs, Ginger, Caraway seeds, of each 4 ounces, Marigold flowers, Aniseeds, of each 16 ounces; bruise them, distil them into strong Proof-spirit according to Art; then add to the distilled water Licorice Spanish 1 pound, Raisins solis, Brown Sugar, of each 5 pound, Red Sanders four ounces; bruise the Licorice and Raisins, stir them well together,

ther, and let them stand 12 dayes, then being clear it may be drawn for use.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Cinamon of the best 6 drams and a half, Cloves a dram and half, Nutmegs, Ginger, Caraway seeds of each 3 drams, Marigold flowers, Aniseeds, of each 1 ounce and 5 drams, bruise them, distil them into strong Proof-spirit according to Art; then add to the distilled water Licorice Spanish an ounce 5 drams, Raisins solis, Brown Sugar, of each 8 ounces, Red Sanders 3 drams: bruise the Licorice and Raisins, stir them well together, and let them stand twelve dayes, then being clear it may be drawn for use.

This Rosa solis is good against cold infirmities of the Stomach, helpeth digestion and expelleth wind.

CHAP. XVI. Clove Water.

The greater quantity.

Take strong Proof-spirit what sufficeth, Cloves of the best 10 ounces, Aniseeds 16 ounces, distil them into strong Proof-spirit, dulcifie with white Sugar 4 pound.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Cloves of the best 1 ounce, Aniseeds 1 ounce and 5 drams: distil them into strong Proof-spirit, dulcifie with white Sugar 8 ounces.

Clove water, helpeth digestion, breaketh wind, provoketh Urine, comforteth the Heart, and strengtheneth Stomach, Liver and all the inward parts.

CHAP. XVII. Cinamon Water Common.

The greater quantity.

Take strong Proof-spirit 10 gallons, Cinamon of the best 5 pound, Aniseeds 10 ounces; distil them into Proof-spirit according to Art, dulcifie with white Sugar 7 pound and a half.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Cinamon of the best 8 ounces

8 ounces, Aniseeds 1 ounce; distil them into Proof-Spirit according to Art, ducifie with white Sugar 12 ounces.

CHAP. XVIII. *Cinamon water Proper.*

The greater quantity.

Take strong Proof Spirit what sufficeth, Cinamon best large ten pounds; distil them into Proof-Spirit according to Art, take white Sugar 12 pound and a half; Rose-water four pound; make them into a Syrup, and ducifie therewith according to Art.

The lesser quantity.

Take strong Proof-Spirit 1 gallon, Cinamon best large 16 ounces; distil them into Proof-Spirit according to Art, take white Sugar 20 ounces, Rose water 6 ounces 3 drams, make them into syrup, and ducifie therewith according to Art.

Cinamon water is good against loathing of the Stomach, and a sinking breath.

It also strengtenth the Heart, Liver, Lungs, and Spleen, and comforteth the Brain and Sinews.

CHAP. XIX. *Sweet Fennel seed Water.*

The greater quantity.

Take strong Proof-Spirit 10 gallons, sweet Fennel seeds five pound, Caraway seeds 4 ounces, Aniseeds 16 ounces; distil them into Proof-Spirit, ducifie with white Sugar 5 pound.

The lesser quantity.

Take strong Proof-Spirit what sufficeth, sweet Fennel seeds 8 ounces, Caraway seeds 3 drams, Aniseeds an ounce and five drams; distil them into Proof-Spirit, ducifie with white Sugar 8 ounces.

Fennel water is good against the nauseousness of the Stomach, and easeth the pain thereof; digesteth Flegm and expelleth Wind.

CHAP. XX. Marigold Water.

The greater quantity.

Take strong Proof-Spirit what sufficeth, Marygold flowers new gathered, pickt clean, 2 pecks heaped; bruise them, sweet Fennel seeds, Aniseeds, of each 10 ounces; distil them into strong Proof-spirit, dulcifie with white sugar five pound.

The lesser quantity.

Take strong Proof-Spirit 1 gallon, Marigold flowers new gathered, pickt clean, what sufficeth, bruise them, sweet Fennel seeds, Aniseeds of each 1 ounce; distil them into strong Proof-spirit, dulcifie with white sugar 8 ounces.

Marigold water comforteth the inwards parts; and is good against infection.

CHAP. XXI. Caraway Water.

The greater quantity.

Take strong Proof-Spirit 10 gallons, Caraway seeds 30 ounces, Aniseeds 10 ounces, Rosemary dry 4 ounces, Limon pils dry, Cloves of each 3 ounces; distil them into strong Proof-spirit according to Art, dulcifie with white sugar five pound.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Caraway seeds three ounces, Aniseeds 1 ounce, Rosemary dry 3 drams, Limon pils dry, Cloves of each 2 drams and an half; distil them into Proof-spirit according to Art, dulcifie with white sugar 8 ounces.

Caraway water is profitable against the cold grief of the Stomach, and Bowels, comforteth them and breaketh wind.

CHAP. XXII. Nutmeg Water.

The greater quantity.

Take strong Proof-Spirit what sufficeth, Nutmeg 20 ounces, Aniseeds 10 ounces, bruise them, distil them into Proof-spirit according to Art, dulcifie with white sugar 5 pound.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Nutmegs best 2 ounces, Aniseeds 1 ounce; bruise them, distil them into Proof-spirit according to Art, dulcifie with white Sugar 8 ounces.

Nutmeg water comforteth the Spirits, dissolveth wind, Aromatizeth the Stomach, causeth a sweet breath, and provoketh Urine.

CHAP. XXIII. *Pretious water.**The greater quantity.*

Take strong Proof-spirit ten gillons,
the roots of Enula Campana Cyprus

Avens

Calamus Aromaticus.

Angelica

Sassafras of each 5 ounces:

Zedoary, Galingale, of each four ounces, *Cassia lignea*, *Lignum Rhodium*, Yellow Sanders of each 3 ounces, Citron pils dry, Orange pils dry, of each 6 ounces, Cinamon White, Nutmegs, Mace, Ginger, of each five ounces, Cinamon best 20 ounces, Cloves, Cardamums, Cubebs, of each 2 ounces and a half, sweet Chervile seeds, Basil seeds, of each 3 ounces and an half, Coriander seeds, sweet Fennel seeds of each ten ounces, Aniseeds 20 ounces; bruise them, distil them into Proof-spirit, and dulcifie with fine Sugar 15 pound according to Art: Let it stand till it be fine, then draw it off, and add Musk one dram: Ambergrise 4 drams; then let it clear and draw it for use.

The lesser quantity.

Take strong Proof-spirit what sufficeth,
the roots of Enula Campana Cyprus

Avens

Calamus Aromaticus.

Angelica

Sassafras, of each half an ounce,

Zedoary, Galingale, of each 3 drams, *Cassia lignea*, *Lignum Rhodium*, Yellow Sanders, of each 2 drams and an half, Citron pils dry, Orange pils dry, of each 4 drams and 3 quarters; Cinamon White, Nutmegs, Mace, Ginger, of each half an ounce, Cinamon best 2 ounces, Cloves, Cardamums, Cubebs, of each 2 drams, sweet Chervile seeds, Basil seeds, of each three drams, Coriander seeds, sweet Fennel seeds, of each 1 ounce, Aniseeds 2 ounces; bruise them, distil them into proof-spirit, and dulcifie

cifie with fine Sugar 24 ounces according to Art, let it stand till it be fine, then draw it off, and add Musk six grains, Ambergrise 24 grains; then let it clear and draw it for use.

Pretious water is good against the Plague and Malignant Feavers: It also comforteth the Spirit, strengthneth the Heart, preserveth the Senses, and releeveth languishing Nature.

CHAP. XXIV. *Wind Water.*

The greater quantity.

Take strong Proof-spirit what sufficeth, Enula Campana roots dry, Aniseeds of each 1 pound, Cyprus roots, Bark of the roots of Bay tree, or as much leaves, Sassafras with the Bark, Cinamon white, of each 6 ounces, Calamus Aramaticus, Orange pils, dry of each 4 ounces, Clary, Red Mints, Calamint, Elder flowers, Camomile flowers of each 5 ounces, sweet Fennel seeds, Caraway seeds, Angelica seeds of each 3 ounces and an half, Coriander seeds, Cardamums, Cubebs, Grains of Paradise, Cloves, Ginger, of each 2 ounces and a half, Pepper long and white of each 10 drams; bruise them all grossely, distil them into strong Proof-spirit according to Art, dulcifie with white Sugar 10 pound, draw it for use when it is perfectly clear.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Enula Campana roots dry, Aniseeds, of each 1 ounce 5 drams, Cyprus roots, Barks of the root of Bay tree, or as much leaves, Sassafras with the Bark, Cinamon white, of each 4 drams 3 quarters, Calamus Aromaticus, Orange pils dry, of each 3 drams, Clary, Red Mints, Calamint, Elder flowers, Camomile flowers, of each half an ounce, sweet Fennel seeds, Caraway seeds, Angelica seeds, of each 3 drams, Coriander seeds, Cardamums, Cubebs, Grains of Paradise, Cloves, Ginger, of each 2 drams, Pepper long and white, of each 1 dram, bruise them all grossely; distil them into strong Proof-spirit according to Art, dulcifie with white Sugar 16 ounces, draw it for use when it is perfectly clear.

CHAP. XXV. *Water to procure Sweet.**The greater quantity.*

Take strong Proof-spirit 10 gallons, Butter-bur-roots dry, 2 pound, Valerian, (common) roots, Aniseeds, of each one pound, Vincetoxicum roots, Sassafras roots, with the Bark of each 8 ounces, Angelica hearb dry, Carduus Benedictus, Great Valerian Hearb and Roots, all dry; Scordium, of each twelve ounces, Cowslip flowers, Marigold flowers, of each 10 ounces, Juniper Berries 20 ounces; bruise them all, distil them into Proof-spirit according to Art; dulcifie with white Sugar ten pound.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Butter-bur-roots dry, 3 ounces a dram and half, Valerian (common) roots, Aniseeds, of each 1 ounce 5 drams, Vincetoxicum roots, Sassafras roots with the Bark, of each 6 drams and a half; Angelica hearb dry, Carduus Benedictus, Great Valerian hearb and Roots, all dry, Scordium, of each one ounce a dram and half; Cowslip flowers, Marigold flowers, of each one ounce, Juniper Berries 2 ounces; bruise them all, distil them into Proof-spirit according to Art; dulcifie with white Sugar 16 ounces.

CHAP. XXVI. *Surfet Water.**Thee greater quantity.*

Take strong Proof-spirit what sufficeth, Juniper berries two pound, Enula Campana roots dry 1 pound, Calamus Aromaticus, Galingale, of each 4 ounces, Wormwood, Spear Mint, Red Mint, all dry, of each 2 ounces and an half, Caraway seeds, Angelica seeds, of each 2 ounces, Sassafras roots with the Bark, white Cinamon, of each 3 ounces, Nutmegs, Mace, Cloves, Ginger, of each 1 ounce, Red Popy flower 4 pound, Aniseeds 2 pound and an half, bruise them all, distil them into strong Proof-spirit, dulcifie with white Sugar 10 pound.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Juniper berries 3 ounces a dram

dram and half, Enula Campana roots dry 1 ounce 5 drams, Calamus Aromaticus, Galingale of each 3 drams, Wormwood, Spear Mint, Red Mint, all dry, of each 2 drams, Caraway seeds, Angelica seeds, of each a dram and a half, Sassafras Roots with the Bark, White Cinamon, of each two drams and an half, Nutmegs, Mace, Ginger, Cloves of each 3 quarters of a dram, Red Poppy flowers 6 ounces and a half, Aniseeds 4 ounces; bruise them all, distil them into strong Proof-spirit, dulcifie with white Sugar 16 ounces.

CHAP. XXVII. *Scorbucical water.*

The greater quantity.

Take strong Proof-spirit 10 gallons, Horse Raddish roots dry 2 pound, Enula Campana roots dry, Aniseeds of each 1 pound, Water

Winter } Cresses,
Garden }

Taragon, Balsamint, Scurvigrass (Garden) Wormwood, Brookelime, Trefoile (Water) Sweet Chervile, of each six ounce, Arsmart 8 ounce,

Mustard }
Banck-cress } seed, of each 3 ounces,
Rocker }
Raddish }

Citron } pills dry
Orange }

Cinamon White, Mace, of each 4 ounces: bruise them all, distil them into strong Proof-spirit according to Art, dulcifie with white Sugar what sufficeth for use; take 7 parts of this Spirit, and 1 part of juyce of Limons (or more) mingle them together, and dulcifie with white Sngar what sufficeth.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Horse Raddish roots dry, 3 ounces a dram and half, Enula Campana roots dry, Aniseeds, of each 1 ounce 5 drams,

Water }
Winter } Cresses,
Garden }

Tarragon, Balsamint, Scurvygrafs (Garden) Wormwood, Brooklime, Trefoil (Water) Sweet Chervile, of each half an ounce and three quarters of a dram, Arsmart three quarters of an ounce and half a dram,

Mustard

Bank-cress

Rocket

Raddish

Citron

Orange

} seeds of each 2 drams and an half,

} pills dry,

Cinamon White, Mace, of each 3 drams and a quarter; bruise them all, distil them into strong Proof-spirit, according to Art, dulcifie with white Sugar 1 pound for use; take 7 parts of this spirit, and 1 part of juyce of Limons (or more) mingle them together, and dulcifie with white Sugar what sufficeth.

CHAP. XXVIII. *Plague Water.*

The greater quantity.

Take strong Proof-spirit what sufficeth, Butterbur-roots dry 1 pound, Garden Valerian roots dry, Common Valerian roots dry, Angelica roots, Imperatoria, Gentian, Enula Campana, Snakegrafs roots, of each six ounces, Contra Yerva, Zedoary, Galingale, of each 4 ounces, Rue leaves dry, White Horehound, Scordium, Carduus Benedictus, of each 5 ounces, Elder-flowers Lavender, Maces of each 3 ounces, Citron pills dry, Juniper berries, of each 8 ounces, Green Walnuts with the husks 1 pound, Venus Triacle, Mithridate, of each 2 ounces, Aniseeds best a pound and half, Camphire 1 ounce; distil them into strong Proof-spirit according to Art, dulcifie with white Sugar 10 pound; for use; let the party infected take of this water 1 ounce, mingled with warm Posset drink, (or any water proper in that case) and be kept very warm and sweat well thereon.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Butterbur roots dry one ounce and 5 drams, Garden Valerian roots dry, Common Valerian roots dry, Angelica roots, Imperatoria, Gentian, Enula Campana,

Campana, Snake-grass roots, of each half an ounce and three quarters of a dram; Contra Yerva, Zedoary, Galingale, of each 3 drams and a quarter, Rue leaves dry, White Horehound, Scordium, Carduus Benedictus, of each half an ounce, Elder flowers, Lavender, Mace, of each two drams and an half, Citron pills dry, Juniper berries, of each 6 drams and a half, Green Walnuts with the husks 1 ounce 5 drams, Venus Triacle, Mithridate, of each a dram and half, Aniseeds best 2 ounces 3 drams and an half, Camphire 3 quarters of a dram; distil into strong Proof-spirit according to Art; dulcifie with white Sugar what sufficeth; for use; let the party infected take of this water one ounce mingled with warm Posset drink, (or any water proper in that case) and be kept very warm, and sweat well thereon.

CHAP. XXIX. *Lavender Water.*

The greater quantity.

Take strong Proof-spirit 10 gallons, Lavender leaves dry three pound, Lavender flowers dry 2 pound, Mace half a pound, or Nutmegs 1 pound, Lavender Cotten dry 2 pound, Stœchados half a pound; bruise them that are to be bruised, distil them into Proof-spirit according to Art, dulcifie with white Sugar what sufficeth.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Lavender leaves dry 4 ounces 3 quarters and half a dram, Lavender flowers dry, three ounces a dram and half, Mace 6 drams and a half, Nutmeg one ounce 5 drams, Lavender Cotten dry 3 ounces a dram and half, Stœchados 6 drams and a half; bruise them that are to be bruised, distil them into Proof-spirit according to Art, dulcifie with white Sugar 16 ounces.

Lavender water helpeth the passions of the Heart, Palsies, Cramps, Apoplexies, and restoreth the speech lost.

CHAP. XXX. Sage Water.

The greater quantity.

Take strong Proof-spirit what sufficeth, Great Sage dry three pound, Red Sage dry 2 pound, Lavender flowers, Sage flowers, of each 1 pound, Lavender Cotten dry, Southernwood dry, of each 8 ounces, Nutmegs ten ounces; bruise or beat them as is most proper; distil them into Proof-spirit according to Art, dulcifie with white Sugar what sufficeth.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Great Sage dry 4 ounces 3 quarters and half a dram, Red Sage dry 3 ounces a dram and a half, Lavender flowers, Sage flowers, of each 1 ounce a half and 1 dram, Lavender Cotten dry, Southern wood dry, of each six drams and a half, Nutmegs what sufficeth: Bruise or beat them as is most proper; distil them into Proof-spirit according to Art, dulcifie with white Sugar 16 ounces.

Sage water is good for such as are of a cold and flegmaticque constitution, and for such as are heavy and dull of spirit.

CHAP. XXXI. Ros solis Proper.

The greater quantity.

Take strong Proof-spirit 10 gallons, Ros solis gathered in due season, and clean pickt 4 pound, Juniper berries 3 pound, Sassafras roots with the Bark, Caraway seeds, of each four ounces, Marigold flowers 1 pound, Aniseeds 1 pound and an half; bruise them that are to be bruised, distil them into strong Proof-spirit according to Art; Take hereof 7 pound; add thereto one pound of water treated of in the 23 Chapter, dulcified, Licorice bruised one pound, dulcifie with white Sugar ten pound: If you add none of the aforesaid water, then in stead thereof take Musk 1 dram, Ambergriese 3 drams, colour it with the tincture of July flowers, or Roses what sufficeth, according to Art.

The lesser quantity.

Take strong Proof-spirit what sufficeth, Ros solis gathered in due

due season, and clean pickt, six ounces 3 drams and a quarter. Juniper berries 4 ounces 6 drams and a half. Sassafras roots with the Bark, Caraway seeds, of each 3 drams and a quarter, Marigold flowers 1 ounce a half and 1 dram, Aniseeds 2 ounces 3 drams and a half, bruise them that are to be bruised, distil them into strong Proof-spirit according to Art; Take hereof ten ounces 1 dram and a half; add thereto 1 ounce 5 drams of the water treated of in the 23 Chapter, dulcified, Licorice bruised 1 ounce 5 drams; dulcifie with white Sugar what sufficeth; If you add none of the aforesaid water, then in stead thereof, take Musk six grains, Ambergrise 8 grains; colour it with the tincture of July flowers, or Roses what sufficeth, according to Art.

Ros solis proper, openeth obstruction, relieveth decaying Nature, comforteth the Stomach, quickneth Appetite, and is good against the Falling-sickness.

CHAP. XXXII. *Water of Flowers.*

The greater quantity.

Take strong Proof-spirit what sufficeth, and put it into a wide mouthed Pot, (or other Vessel) stopt very close. Take those several flowers following in their seasons, and being clean pickt, put them to the spirit in the Pot, viz. Cow-slips, Wood-bind, Stock-gilly flower of all three sorts,

Damask

Musk

} Roses,

Sweet Brier flowers, Clove July-flowers, Liliū Convallium,

Jasmine, Citron

} flowers, or pills dry,

Tillia Flowers,

Garden

Limon } Thyme flowers,

Wild

Lavender

Marigold

Chamomile

} Flowers, of each half a pound;

Melilot

Elder

D d d

Being

Being furnished with all your flowers as above, when you would distil them, add to them Aniseeds 2 pound, Coriander 1 pound; bruise the seeds; it were best to bruise all the flowers, as you put them up into the spirit, for their more orderly working; distil them into strong Proof-spirit according to Art; then add to the distilled water, Roses, July flowers, Elder flowers, of each 1 pound: after twelve days infusion it may be drawn off; then dulcifie it with white Sugar 10 pound, and being fine, it may be drawn for use.

The lesser quantity.

Take strong Proof-spirit 1 gallon, and put it into a wide mouthed pot (or other vessel) stop'd very close; take those several flowers following in their seasons, and being clean pickt, put them to the spirit in the pot: viz. Cowslips, Wood-bind, Stock Gilly flowers of the 3 sorts;

Damak }
Musk } Roses;

Sweet Brier flowers, Clove July flowers, Lillium Convallium, Jasmine, Citron

Orange } flowers, or pills dry.

Lillia flowers;

Garden } (the same as above)

Limon } Thyme flowers;

Wild } (the same as above)

Lavender } (the same as above)

Marigold } (the same as above)

Chamomile } Flowers, of each 6 drams and a half;

Mellilot } (the same as above)

Elder } (the same as above)

Being furnished with all your flowers as above, when you would distil them, add to them Aniseeds 3 ounces a dram and half, Coriander 1 ounce 5 drams: bruise the seeds; it were best to bruise all the flowers, as you put them up into the spirit, for their more orderly working, distil them into strong Proof-spirit according to Art; then add to the distilled water Roses, July flowers, Elder-flowers, of each 1 ounce 5 drams: after 12 days infusion it may be drawn off, then dulcifie it with white Sugar 1 pound, and being fine it may be drawn for use.

CHAP. XXXIII. *Water of Fruits.*

The greater quantity.

Take strong Proof-spirit 10 gallons, Juniper-berries 4 pound, Quince parings dry, Pippin paring, dry, of each 2 pounds, Limon pils, Orange pils dry, of each 1 pound; Nutmegs four ounces, Aniseeds 12 pounds, Cloves 2 ounces; distil them into Proof-spirit according to Art; to the spirit add Straw-berries, Raspices bruised, of each 5 pound; stir them well together, and after ten days it being clear, may be drawn off; then dulcifie with syrup made as is hereafter taught, and so let it stand till it be clear, and then draw it off for use.

The lesser quantity.

Take strong Proof-spirit 1 gallon, Juniper-berries 6 ounces 3 drams and a quarter, Quince parings dry, Pippin parings dry, of each 3 ounces a dram and a half, Limon pils, Orange pils dry, of each 1 ounce 5 drams, Nutmegs 3 drams and a quarter, Aniseeds 3 ounces a dram and half, Cloves a dram and half; distil them into Proof-spirit according to Art; to the spirit add Straw-berries, Raspices bruised, of each 8 ounces; stir them well together, and after 10 days, it being clear, may be drawn off; then dulcifie it with syrup made as is hereafter taught, and so let it stand till it be clear, and then draw it off for use.

CHAP. XXXIV. *Aven Water.*

The greater quantity.

Take strong Proof-spirit what sufficeth, Aven roots 4 pound, Orris roots, Nutmeg Yellow Sanders, Mace, of each 2 ounces, Lignum Rhodium, Saffron, Storax, Benjamine, of each 1 ounce, Angelica roots 3 ounces, Limon pils green half a pound, Sweet Fennel seeds, Aniseeds, of each 1 pound, Cloves 10 drams, Roman Wormwood, Mint dry, of each 3 handfuls; Red Roses, Stœchas flowers, of each 4 handfuls, Sweet Marjoram, Balm, Burnet, Thyme, all dry, of each 6 handfuls, Alkermes berries 2 ounces; bruise them all that are to be bruised, distil them into Proof-spirit according to Art, dulcifie with syrups

thus made; Take Rosewater 4 pound, white Sugar 10 pound, boil it to a Syrup height; then strain it, and put it to the fire again; add thereto confection of Alkermes 4 ounces, Syrup of Gilly flowers 1 pound, Ambegriese (dissolved in Rose water) 1 drach; and so let these boil a little, till they be incorporated with the Syrup, and so keep it for use.

The lesser quantity.

Take strong Proof-Spirit 1 gallon, Aven roots 6 ounces 3 drams and a quarter, Orris roots, Nutmeg, Yellow Sanders, Mace of each a dram and half, Lignum Rhodium, Saffron, Storax, Benjamin of each 3 quarters of a dram, Angelica roots 2 drams and a half, Limon-pils green 6 drams and a half, Sweet Fennel seeds, Aniseeds, of each 1 ounce 5 drams, Cloves 1 dram, Roman Wormwood, Mint dry, of each what sufficeth, Red Roses, Stechas flowers, of each what sufficeth, Sweet Marjoram, Balm, Burnet, Thyme, all dry, of each what sufficeth, Alkermes berries a dram and half; bruise them all that are to be bruised; distil them into Proof-spirit according to Art, dulcifie with Syrup thus made; Take Rose water 6 ounces 3 drams and a quarter, White Sugar 1 pound, boil it to a Syrup height, then strain it, and put it to the fire again; add thereto Confection Alkermes 3 drams and a half, Syrup of Gilly flowers 1 ounce 5 drams, Ambegriese (dissolved in Rose water) 6 grains; and so let these boil a little, till they be incorporated with the Syrup, and so keep it for use.

Avens water is a great Cordial, strengtheneth the Spirit, comforteth all the inward parts, and preserveth from Consumptions, and Melancholy sadness.

Additions.
 Aven roots 6 ounces 3 drams and a quarter, Orris roots, Nutmeg, Yellow Sanders, Mace of each a dram and half, Lignum Rhodium, Saffron, Storax, Benjamin of each 3 quarters of a dram, Angelica roots 2 drams and a half, Limon-pils green 6 drams and a half, Sweet Fennel seeds, Aniseeds, of each 1 ounce 5 drams, Cloves 1 dram, Roman Wormwood, Mint dry, of each what sufficeth, Red Roses, Stechas flowers, of each what sufficeth, Sweet Marjoram, Balm, Burnet, Thyme, all dry, of each what sufficeth, Alkermes berries a dram and half; bruise them all that are to be bruised; distil them into Proof-spirit according to Art, dulcifie with Syrup thus made; Take Rose water 6 ounces 3 drams and a quarter, White Sugar 1 pound, boil it to a Syrup height, then strain it, and put it to the fire again; add thereto Confection Alkermes 3 drams and a half, Syrup of Gilly flowers 1 ounce 5 drams, Ambegriese (dissolved in Rose water) 6 grains; and so let these boil a little, till they be incorporated with the Syrup, and so keep it for use.



Additions to enrich these precedent Chapters, to which (by Numbers) these are referred.

Additions to the first and second Chapters.

Take Iuly flowers, Roses, Poppy and Sanders, or any of them severally, what sufficeth; and infuse them in Aqua-vitæ, or Proof-spirit, till the tincture be drawn out; then draw off the spirit, and reserve it (close stoppt) for use: When you have occasion to use it, take 8 ounces thereof to 7 pound and a half of this Water; and you will give it a sufficient colour; or you may take more at pleasure without inconveniency.

Additions to the third Chapter.

The greater quantity.

Take Aniseeds, White Sugar, of each five pound, or what sufficeth, according to Art.

The lesser quantity.

Take Aniseeds, White Sugar, 8 ounces, according to Art.

Additions to the fourth Chapter.

The greater quantity.

Take Caraway seeds, Coriander seeds, of each 3 ounces, Calamus Aromaticus, Zedoary, of each 4 ounces, Aniseeds, Cassia lignea, of each 8 ounces, Angelica Roots 8 ounces, (or Hearb Angelica 2 pound) white Sugar 2 pound and half, or what sufficeth.

The lesser quantity.

Take Caraway seeds, Coriander seeds, of each 2 drams and a half, Calamus Aromaticus, Zedoary, of each 3 drams and 3 quarters, Aniseeds, Cassia lignea, of each 6 drams and a half, Angelica roots 6 drams and a half, or Herb Angelica 3 ounces a dram and half, White Sugar 4 ounces, or what sufficeth.

*Additions to the fifth Chapter.**The greater quantity.*

Take Cinamon, Cubebs of each 4 ounces, Sweet Fennel seeds, Aniseeds of each 8 ounces, Cloves, Caraway seeds, Nutmegs, of each 3 ounces, Wormwood dry 10 ounces, White Sugar 2 pounds and a half, (or what sufficeth).

The lesser quantity.

Take Cinamon, Cubebs, of each three drams and a quarter, Sweet Fennel seeds, Aniseeds, of each 6 drams and a half, Cloves, Caraway seeds, Nutmegs, of each 2 drams and a half, Wormwood dry 1 ounce, white Sugar 4 ounces, (or what sufficeth).

*Additions to the sixth Chapter.**The greater quantity.*

Take Garden Thyme, Penny-royal of each 3 handfuls, Cardamums 2 ounces, Sweet Fennel seeds, Aniseeds, of each eight ounces, Balm dry 1 pound, Nutmeg, Ginger, Calamus Aromaticus, Galingale, Cinamon, of each 4 ounces.

The lesser quantity.

Take Garden Thyme, Penny-royal, of each what sufficeth; Cardamums a dram and half, Sweet Fennel seeds, Aniseeds, of each 6 drams and an half, Balm dry 1 ounce 4 drams, Nutmegs, Ginger, Calamus Aromaticus, Galingale, Cinamon, of each 3 drams and a quarter.

Add:

Additions to the seventh Chapter.

The greater quantity.

Take Spear Mint dry, Aniseeds, of each one pound, Calamus Aromaticus 4 ounces, White Sugar 2 pound and a half.

The lesser quantity.

Take Spear Mint dry, Aniseeds, of each 1 ounce 5 drams, Calamus Aromaticus 3 drams and a quarter, White Sugar four ounces.

Additions to the eight Chapter.

The greater quantity.

Take Sweet Fennel seeds, Cinamon, of each 8 ounces, Aniseeds, Rosemary dry of each 1 pound, Caraway 2 ounces, Spear Mint dry 2 handfuls, White Sugar 2 pound and a half.

The lesser quantity.

Take Sweet Fennel seeds, Cinamon of each 6 drams and a half, Aniseeds, Rosemary dry, of each 1 ounce five drams, Caraway 1 dram and a half, Spear Mint dry what sufficeth, white Sugar 4 ounces.

Additions to the ninth Chapter.

The greater quantity.

Take Caraway seeds 4 ounces, Aniseeds, Limon pills dry, of each 1 pound, White Sugar 2 pound and a half; in like manner and quantity make your Composition with Orange pills dry according to Art.

The lesser quantity.

Take Caraway seeds 3 drams and 3 quarters, Aniseeds, Limon pills dry, of each 1 ounce 5 drams, white Sugar 4 ounces; In like manner and quantity make your Composition with Orange pills dry, according to Art.

Additions

Additions to the twelfth Chapter.

The greater quantity.

Take Cinamon 5 ounces, Cloves 2 ounces, Limon pils dry 3 ounces, Sugar 2 pound and a half.

The lesser quantity.

Take Cinamon half an ounce, Cloves a dram and half, Limon pils dry, 2 drams and a half, Sugar 4 ounces.

Additions to the fourteenth Chapter.

The greater quantity.

Take Sweet Fennel, Cinamon, of each 5 ounces, Nutmeg 3 ounces, Sugar 2 pound and a half.

The lesser quantity.

Take Sweet Fennel, Cinamon of each 4 drams, Nutmegs 2 drams and a half, Sugar 4 ounces.

Additions to the fifteenth Chapter.

Take and add to the spirit half as much as the rule of every particular Ingredient therein expressed, and in stead of Sanders give it the tincture of Roses, July flowers, or Poppy, what sufficeth according to Art.

Additions to the eighteenth Chapter.

The greater quantity.

Take Musk, Ambergrise, of each half a dram, White Sugar Candy in stead of common white Sugar, what sufficeth according to Art. In respect that Musk in some case, may give offence to the receiver: It is requisite to omit the use thereof in some of your waters of this kind, to serve for such special uses.

The lesser quantity.

Take Musk, Ambergrise of each 3 grains, White Sugar Candy in stead of Common white Sugar, what sufficeth according

ding to Art. In respect that Musk for some causes may give offence to the receiver, it is requisite to omit the use thereof in some of your waters of this kind to serve for such special uses.

Additions to the nineteenth Chapter.

The greater quantity.

Take Sweet Fennel seeds 3 pounds, Caraway seeds four ounces, Aniseeds 1 pound, Cinamon eight ounces, Cloves 2 ounces, Sugar 2 pounds and a half.

The lesser quantity.

Take Sweet Fennel seeds 8 ounces, Caraway seeds 3 drams and a quarter, Aniseeds 1 ounce 5 drams, Cinamon 6 drams and a half, Cloves a dram and half, Sugar 4 ounces.

Additions to the twentieth Chapter.

The greater quantity.

Take Cinamon, Sweet Fennel of each 5 ounces, Caraway, Cloves of each 2 ounces, Marigold 2 gallons, Sugar 2 pounds and a half.

The lesser quantity.

Take Cinamon, Sweet Fennel, of each 4 drams, Caraway, Cloves of each a dram and half, Marigolds what sufficeth, Sugar 4 ounces.

Additions to the twenty third Chapter.

The Syrup for dulcifying the water is thus to be made.

Take Apricocks, Quinces, Cherries, English Currants, of each what sufficeth, all full ripe, and of equal weight, when they are thus prepared as followeth.

Prepare the Quinces and Apricocks, and take out the stones, and kernels, and slice them very thin, stone the Cherries and bruise them and the Currants; then lay them into a flat Basen; or Pan thus: a lane of fruit of a fingers thickness: and then a lane of White powder Sugar of like thickness: and so proceed

Excellent Waters for several uses.

ceed in order lane upon lane till all be laid into the Balon: then pour on good *Aqua vite* gently, till all be covered therewith; and so let it stand 2 hours; then bruise or posh them all together, and press out the juyce as dry as possibly you can through a thick linnen bag: Then take the juyce, and let it stand till it be settled clear, which juyde by a gentle exhalation in a hot bath, boyl up to a syrnep height according to Art, and keep it for use. To every eight pound of the Spirit, put a pound of this Syrup, and when it is clear draw it off for use.



The Furnace
used in the drawing
off the preceding
Spirits and waters.

A, Sheweth the
bottom which
ought to be of
Copper.

C, The barrel filled
with cold water,
to refrigerate &
condense the
water and Oyl
that run through
it.

D, A pipe of brass
or pewter, or rather a worm

of Tin running
through the bar-
rel.

E, The Alembick
set in the furnace
with the fire under it.

Excellent

Excellent Waters for several Uses.

CHAP. I. *A Water to cause Hair fallen to grow again.*

TAke Mountain Hyssop, Mountain Calamint, leaves of Southernwood, of each two handfuls, Canary Wine, Urine, Hony, Milk, of each two pound; Mustard seed half a pound; bruise what is to be bruised; macerate them three days, then distil them in *Balneo*.

CHAP. II. *A water to cause Hair taken off never to grow again.*

Take seeds of Henbane bruised 2 pound, lay it a while in some moist place; then add great Stone-crop half a pound; distil it according to Art.

Another.

Take blond of Frogs, *Terræ Sigillatæ*, Sumach, Roses, Sorrel, Houlleek, what is sufficient; macerate them together 24 hours; then distil them in *Balneo*.

CHAP. III. *A water to take away Spots in the Face.*

Take Asses Milk four pounds, white Wine 1 pound, the inside of two new loaves, 12 Eggs with the shells, Sugar Candy 3 drams; mix them well together and distil them.

CHAP. IV. *A water against Scabs.*

Take Sorrel water 2 pounds, Juice of Plantain's Rose water, of each 4 ounces, Juice of Limons 2 ounces, Lytharge 6 ounces, Ceruse, Sublimate, of each half an ounce, Sulphure vive 3 drams; bruise them that are to be bruised; then infuse them 24 hours; and after distil them according to Art.

CHAP. V. *A water to preserve the Sight.*

Take Fennel, Vervaine, Eye-bright, Endive, Betonie, Red Roses, Venus Hair, of each three handfuls; bruise the Hearbs, and macerate them 24 hours in White Wine, (as much as is sufficient) then distil them in a limbeck in Balneo.

Another way owi done

Take Fennel, Celandine, Sage, Rosemary, Vervain, Rue, of each equal parts: Prepare it as before.

CHAP. VI. *A water to restore the sight Delayed.*

Take Fennel, Celandine, Vervaine, Rue, Leaves of Enula, Fullers Teasel, Milfoil, of each one handful, Camphire half a dram; bruise them and distil them in an Alembick.

CHAP. VII. *A water against the Gout.*

Take Licorice half a pound, Aniseeds 1 pound, Cinamon three ounces, Galingale, Ginger, Roots of Ireos, Enula Campana, Seeds of Fennel, Caraway, Amomum, Ammi Piony, Basil, Savory, Marjoram, of each one ounce; Juniper Berries 2 ounces, Ground Ivie half a handful, Long Pepper, Calamus, Spikenard, Mace, of each 3 drams, Valerian 1 dram, Roots of Angelica half an ounce, Cyprus 4 ounces, Lignum Aloes half an ounce, Sugar 4 ounces, Malaga wine, or strong Ale 32 pounds; prepare and distil them according to Art.

This water taken inward'y strengthens cold and weak Stomachs and breaks the Stone.

Outwardly applied it easeth the Gout, enlargeth Senews that are shrunk, and is good against all aches and passions proceeding from melancholy and cold.

CHAP. VIII. *A water for the Web and Spots in the Eyes.*

Take Rue, Plantain, Red Roses, Red Poppies, Vervaine, Celandine leaves, of each 1 ounce; Red Rose water 1 pound, Rich white Wine 1 pound and an half, Tutia prepared 1 dram, Aloes Hepatick an ounce and an half, Cloves 1 ounce, Powder, prepare and distil them according to Art; Drop the water into the Eyes morning and evening.

CHAP. IX. *A water for Tetters, Fistulae, Gankers, &c.*

Take strong white Wine Vinegar 8 pounds, Wood Ashes one pound, Infuse them 3 dayes natural, and stir them twice a day; then put thereto unslaked lime 1 pound, let it stand other three dayes, and stir it as before, when it is well settled, Filtre off the clear Lee, and put thereto Sal Gemme, Salt Alkali, Salt Armoniac, Salt of Tartar, of each one dram; Calx of Egge-shells, Calx vive, of each 1 dram; grind all these together, and temper them with the said Lee; put them into a Glas lembick, and distil them in Balneo; give it the first 24 hours no more heat than will make it, and keep it warm: after that distil it off according to Art.

CHAP. X. *A water against redness of the Face, and to beautifie the Skin.*

Take Wild Purslain, Mallows, Nightshade, Plantain with the seeds, of each three handfuls; the Whites of 12 Eggs, Limons number 12, Roch Allum 4 ounces; prepare and distil them according to Art.

Another.

Take Calx of Egge shels, White Coral pulverized, of each 2 ounces, Salt calcinated, and Borax of each 6 ounces, Gum Tragagant 5 ounces, Roots of white Lillies number 6, White Sope 8 pounds, Styra, Calamita, Belzoin, of each 4 ounces; mix and distil them by Alembick.

Another of the same vertue.

Take Wine Vinegar half a pound, Lytharge of gold 1 ounce and a half, Ceruse 1 ounce, Sal Gein 6 drams, Roth Alum half an ounce, Borax, Sulphur vive, Salt Nitre of each three drams, Camphire half a dram; prepare and distil them according to Art.

CHAP. XI. A water against the inordinate Flux of Tearr.

Take ripe Strawberries as many as you please, set them to digest in Horse-dung 15 days; then distil them in *Balneo*.

Or thus,

Take Flowers of the white Thorn, Leaves or tops of the Willow, Eye-bright, of each what sufficeth, distil them as before.

CHAP. XII. A water against the Redness of the Eyes.

Take juyce of Celandine, Rue, Vervain, Fennel, of each three ounces; tops and leaves of Roses of each what sufficeth, Sugar Candy 3 ounces, of the best Tutia, Sanguis Draconis, of each four ounces; bruise them that are to be bruised, and distil them according to Art.

CHAP. XIII. A water to cleanse and dry a sharp Ulcer.

Take Crude Allum 2 ounces, whites of Egges, number 15, Juice of Purslain, Plantain, Nightshade, Nicotian, Honsleek, Water of Meadsweet, Trinity Grass, Roses, of each 4 ounces; Labour them well together, and draw off the Water by an Alembick of Glass in *Balneo*.

CHAP. XIV. *A water to make the Teeth white.*

Take Allum 6 ounces, Common Salt 3 ounces, Myrrhe, Mastick, Cloves, of each 6 drams; mix, bruise and distil them according to Art.

CHAP. XV. *A Water to take away the marks of the Small Pox.*

Take Mastick, Myrrhe, Aloes Hepatick, Nard, Sanguis Draconis, Olibanum, Opopanax, Bdelium, Carpobalsamum, Saffron, Gum Arabick, Liquid Storax, of each 2 drams and a half; Beat what is to be beaten; then add thereto of clear Turpentine equal weight: distil them according to Art.

CHAP. XVI. *A Water to Cicatrize Ulcers.*

Take red Wine 2 pound, Plantain water half a pound, Rose water four ounces, Juice of Plantain, Vervain, Shepheards Purse, Knotgrass, Centaury the less, Comfery the greater and lesser, of each 2 ounces; Crude Allum 1 pound, Cypress Nut 3 ounces, Pomgranate flowers half an ounce, Pomgranate pills ounces, Gals half an ounce, Bark of the Oak, Sumach, of each five drams, Turpentine 3 ounces, Crude Honey half a pound, Mastick, Olibanum, of each ten drams, Sarcocol two ounces, Burnt Vitriol, Burnt Lead, of each 1 dram, Bole Armoniack 3 ounces, Cassia lignea half an ounce, Round Birthwort 3 ounces; Powder what is to be powdred, then mix and distil them.

Another.

Take Mastick, Myrrhe, Olibanum, Sarcocol, Mummie of each 3 drams, Frankincense 1 ounce, Nutmegs, Cinamon, Cloves, Cubbs, of each 2 drams, Cyprus Nut half an ounce, flowers of Pomgranates, Barks of Pomgranates, of each 1 dram; Bole Armoniack 1 ounce, Red Roses 3 drams, Roch Allum 1 pound, Vitriol 7 drams, Clarified Honey 1 ounce, Aqua vita a pound and half, white Wine 1 pound, Juyce of Plantain, Nightshade, Comfrey,

fery of the greater and lesser, of each 4 ounces, Water wherein Iron hath been quenched 4 pounds; powder what is to be powdered, and infuse them all night in Aqua viæ, in the morning draw forth the water by Alembick.

CHAP. XVII. *A Water for Ulcers.*

Take White Wine 4 pounds, Plantain water 2 pounds, Allum half a pound, White Copperas 5 ounces, Crude Honey 1 pound, Licorice Rasped 1 pound, Bole Armoniack 5 ounces, Camphire an ounce and half, Mercury sublimated 2 drams; Bruise what is to be bruised, and distil them by Alembick.

CHAP. XVIII. *A Water for hollow Ulcers.*

Take Fountain water, Red Wine, of each 2 pounds and a half, Red Roses four ounces, Flowers & Rinds of Pomgranates, of each two ounces and a half, Sumach 2 ounces, Sage a handful, Comfery the greater and lesser of each half a handful, Sarcocol 3 ounces, Mastick 2 ounces, Olibanum 1 ounce, Honey 1 pound, water of Turpentine a pound and a half; bruise what is to be bruised, and distil them through a Lembeck of Glass with a gentle fire.

CHAP. XIX. *A Cicatrizing Water.*

Take water wherein Iron hath been quenched four pounds, Aqua Balsami veri four pounds, Turpentine a pound and half, Crude Honey 1 pound, Allum 10 ounces, white Coperas five ounces, Bole Armoniack 7 ounces, Mercury sublimated half a dram, leaves of Plantain, Comfery the greater, middle and lesser, Teafil, Knotgrass, St. Johns Wort, of each a handful and a half, Frankincense 2 ounces, Olibanum, White Sanders, of each half an ounce, Red Roses a handful and a half, Cassia Lignea, Cinamon, of each 3 drams; for the first distillation; then take Turpentine 1 pound, Mastick 3 drams, pure Rozen 6 ounces, Cinamon, Cloves, of each 2 drams; Pomgranate rinds half an ounce, Cyprus Nuts 1 ounce and a half, White Coperas:

Copperas two ounces, Allum 3 ounces, Olibanum 4 ounces, Sanguis Draconis an ounce and a half, Aqua Balsam. veri 1 pound for the second distillation : Afterwards,

Take Flowers of St. Johns Wort, Sage, Rosemary, Carduus Benedictus, Centaury, of each 1 ounce, Mastick, Red Sanders, of each 3 drams, Wood of Aloes 2 scruples, Cubebs one dram, Aqua vitæ half a pound, Burnt Allum, White Tartar, of each an ounce and a half, Myrrhe half an ounce, Earth Worms in powder 1 dram, the middle bark of the Oak 6 ounces, Cassia lignea 3 drams, White Copperas 1 ounce, Rindes of Pomgranates half an ounce, Cinamon 2 drams, Flowers of Pomgranates 1 dram, Guaiacum 4 ounces, Carpopallium, Xylobasamum, of each 1 dram, Myrtles, Mummie, of each 2 drams, Borax half an ounce, Cloves two drams, Tormentil, Gentian, Round Birth-wort, of each two drams and a hal : This is for the last distillation; afterwards add Burnt Allum half an ounce, White Copperas 2 drams, Mastick 1 ounce in fine powder, and then keep it for use.

CHAP. XX. *A water for hollow Wounds.*

Take Fountain water, Red Wine, of each 2 ounces and an half, Red Roses 4 ounces, Pomgranate flowers, Pomgranate rindes, of each 2 ounces and a half, Sumach, 2 ounces, Sage 1 handful, both the Comferies, of each a handful, Allum half a pound, Sarcocol 3 ounces, Mastick 2 ounces, Olibanum 1 ounce, Honey 1 pound, water of Turpentine a pound and a half. Prepare the Ingredients according to Art, and then distil them all together in a Glass-lembeck with a gentle fire.

CHAP. XXI. *A Water for Wounds and Ulcers.*

Take Calx vive extinct in Fountain water 8 pounds, Plantain water 4 ounces, Rose water 2 pounds. Heat all these together, afterward let them stand and clear, pour forth all the clear to the Lembeck, and put to it Honey 2 pounds, Allum 1 ounce, Borax, Mastick, of each three ounces, Olibanum 4 ounces, the middle Bark of the Oak dryed 3 ounces, powder what is to be powdered and distil them according to Art.

CHAP. XX.I. *A water to make the Teeth white.*

Take the first distilled water of Honey which is white, one pound, Allum half a pound, Sal Nitre, White Salt, of each one ounce, Water of Lentisk leaves 1 pound, Mustick two ounces, White Vinegar, White Wine, of each 2 ounces. Mix and distil them according to Art, and reserve the water.

CHAP. XXIII. *A water against the Colick.*

Take Muscadell, or Malmsey four pound, Nutmegs, Galls, of each 1 dram, Cinamon, Cloves, Grains, of each 2 drams. Powder the ingredients grossly, and infuse them in the Wine 24 hours, then with a soft fire draw off the water according to Art.

CHAP. XXIV. *A water for a cold Stomach.*

Take Citron and Orange pils dried, of each 2 ounces, Rosemary, Mints, of each one handful, Cinamon, Cloves, Cubebs, Cardamums, Nutmegs, Ginger, of each a dram and a half, Sage, Pennyroyal, Thyme, of each one handful, Carawayseeds, Aniseeds, Fennel seeds, of each 4 drams: Bruise what is to be bruised, and infuse them all the space of 24 hours in Canary wine four pints; then distil them in *Balneo* according to Art.

CHAP. XXV. *Water of Sage Compound.*

Take Sage, Marjoram, Thyme, Lavender, Epithymum, Betony, of each 1 ounce, Cinamon half an ounce, Ireos, Roots of Cyprus, Calamus Aromaticus, of each 1 ounce, Storax, Benjamin, of each a dram and a half; infuse them four days in four pounds of Spirit of Wine; then distil them in *Balneo*.

CHAP. XXVI. *Lavender water Compound.*

Take flowers of Lavender, Lilly of the Valley, of each 24 handfuls

handful, Piony, Tillia, Flowers of Rosemary, Sage, of each half a handful, Cinamon, Ginger, Cloves, Cubebs, Galingale, Calamus Aromaticus, Mace Messelto of the Oak, of each a dram and a half. Piony roots one ounce and a half, of the best Wine what sufficeth, infuse them in Wine two dayes; then distil them in *Balneo Mariae*.

The water is good against the Falling-sickness, Convulsion fits, and the infirmities of the Brain.

CHAP. XXVII. *A Peitoral Water.*

Take Liver of a Calf, the Lungs of a Fox, of each number 1, Liverwort, Longwort, Sage, Rue, Hyssop, of each one handful, Roots of Enula, Gladiol, of each half an ounce, Seeds of Anise, Caraway, Fennel, of each half an ounce, Flowers of Borage and Bugloss, of each 2 drams; infuse them the space of 24 hours in rich old Wine what sufficeth. Water of Scabius, Carduus Benedictus, of each four ounces, Hylop 2 ounces; then distil it in *Balneo Mariae*.

Another.

Take leaves of Scabius, Veronica, of each two handfuls, Venus Hair, Sage, Hylop, Horehound, Liverwort, Licorice, of each one handful; Flowers of Borage, Bugloss, Violets, of each half a handful, Roots of Enula Campana, Licorice, Flowers of Ireos, of each half an ounce, Aniseeds, Fennel seeds, of each 1 dram, Choyse Cinamon, Oriental Saffron, of each half a dram; let them be bruised and cut, let them be digested two days in water of Scabius Veronica, of each one pound, water of Hylop half a pound, white Wine 3 pounds, and be distilled in *Balneo Mariae*; and Sugar Candy what sufficeth.

This water openeth the obstructions of Liver and Lungs, and strengtheneth them.

CHAP. XXVIII. *Aqua Splenetica.*

Take roots of Fern 2 ounces, roots of Parsley, Polypody, of each an ounce and a half, roots of round Birthwort, Lovage, Calamus Aromaticus, Acorns of the water, of each 1 ounce, chosen

Rhubarb, barks of Tamarisk, Copperas, Ash, of each half an ounce, Lovage, Seeds of Caraway, Cummin, Anise, of each two drams, Scolopendria, tops of Wormwood, Fumitory, Dodder, leaves of Agrimony, Ceterach, of each a handful and a half: Rich Wine 8 pounds; let them be digested two days, and then distil them in *Balneo Marie*.

This water strengtbeneth the Spleen, openeth and provoketh Urine.

CHAP. XXIX. *Aqua Febrifuga.*

Take roots of Vipers grass, Cinquefoil, Tormentil, Dictamnium, of each 6 drams, Seeds of Citron, excocticated, Carduus Benedictus, Carduus Mariæ, Sorrel, of each half an ounce, of all the Sanders of each 1 dram, of the Cordial flowers of each one handful, Goats Rue 1 handful, Harts-horn Rasped half an ounce, pour upon them bruised, water of Tormentil, Cychorie, Carduus Benedictus, Carduus Mariæ, Wild Poppy, of each what sufficeth; let them be macerated three days in a glass close shut, afterward add Citrons bruised number six, Juyce of Endive, Carduus Benedictus, Plantain of each one pound, Borage, Scordium, of each half a pound; let them be distilled in *Balneo Marie*.

This water is convenient in Feavers, especially malignant Feavers; because it driveth away the malignity, and resisteth putrefaction.

CHAP. XXX. *Aqua Damascena Odorifera.*

Take Ireos Flowers, Cloves, Cubeb, Cinamon, Grains of Paradise, Calamus Aromaticus, of each one ounce, Marjoram, Thyme, Bay-leaves Rosemary Flowers, Red Roses, of each a handful, Lavender-flowers three drams; of the best Wine 3 measures; let them be macerated and distilled: to the distilled liquor add Musk half a scruple, Civet 6 grains.

This water heateth, dryeth, cutteth, dissolveth, and chiefly strengtbeneth the Heart and Head.

CHAP. XXXI. *Aqua Hysterica.*

Take roots of Dictamnium seeds of Daucus, of each one ounce,
Cinamon

Cinamon, Cassi lignea, Balm, of each two scruples, Oriental Saffron 1 scruple, New Castorium 1 scruple and a half; of all these mixt make a powder, to which let be poured water of Rue two pounds and a half: let them stand in infusion four days, and then distil them in *Balneo Maria*.

CHAP. XXXII. *Aqua Nephretica.*

Take roots of *Enula Campana*, Cammock, Pimpernel, Radish, of each one ounce, Parsley, Lovage, of each 7 drams, leaves of Lovage, Parsley, of each one handful, *Saxifraga cum toto* two ounces, Flowers of Broom, Balm, Rosemary, of each half a handful, Elder one handful, Berries of Juniper, Myrtle, Alcaken-gie, Aniseeds, of each 2 ounces; cut them and infuse them the space of 8 days in 12 pounds of the best white Wine, then let them be distilled.

This water openeth and peevebeth Urine: the dose is one spoonful.

CHAP. XXXIII. *Aqua Aperitiva.*

Take roots of Eringo, Vipert-grass, Fern, the greater Centaury, of each half an ounce, roots of Fennel, Barks of Capparis, Tamarisk, Ash, of each three drams, Barks of Citrons two drams and a half: Seeds of *Carduus Benedictus*, Cichorie, of each half an ounce: Seeds of Endive, Cresses, Citrons, Scariol, of each two drams, Polytricon, Adiantum, Ceterach, Dodder, Scolopendria, Betony, Endive, of each a handful and a half, Tops of Thyme, Epithymum, Hops, Flowers of St. Johns Wort, Broom, Borage, Balm, of each 1 handful, Small Raisins 1 ounce: Cinamon 1 dram, and a half, *Spec. Dialacca* half a dram, *Carduus Benedictus*, Water of Hops, Scolopendria, Pauls Betony, of each one pound, Rhenish Wine two pounds and a half; let them stand two dayes in a warm place in a vessel close stopped: afterward distil them in *Balneo*.

This water openeth the obstructions of the whole body, but especially of the Liver, Spleen, and Mesentery.



A Catalogue of the *Materials* and *Ingredients* used in the precedent Rules.

ROOTS.

A Ngelica
 Avena
 Butter-Bur
 Calamus Aromaticus
 Cyperus, long
 Contrayerva
 Enula campana
 Galingal
 Gentian
 Ginger
 Horse-Radish
 Imperatoria
 Licorice
 Lovage
 Orris
 Sassafras
 Scordium
 Snake-grass
 Valerian
 Vinetonicum
 Zedoary

WOODS.

L Ignum Rhodium
 Sanders } Red
 } Yellow.

BARKS and PILS.

B Ay-tree Roots
 Cassia Lignea
 Cinamon } Common
 } White

Citron
 Guaiacum
 Limon
 Orange
 Pippins
 Quinces
 Sassafras

HERBS.

A Ngelica
 Arsmari
 Bay-leaves
 Balm
 Burnet
 Brooklime

Balsamint or Costmary
 Carduus Benedictus
 Chervile, sweet
 Clary
 Calamint

Cresses } Water
 } Garden
 } Winter
 } Bank

Costmary or Balsamint
 Horehound, white
 Lavender leaves
 Lavender Cotton

Mint } Spear
 } Red

Marjoram, Summer

Penny Royal

Rosemary

Rocket

Ros Solis

Rue

Sage } Red
 } Great

Scurvygrass } Common
 } Garden

Stachados

Southernwood

Scordium

Thyme } Wilde
 } Garden
 } Limon

Taragon

Trefoil, Water

Valerian, great

Wormwood } Common
 } Roman

FLOWERS.

Cowslip
 Citron

Camomile

Elder

Gilliflowers, Clove

Gilliflowers, Stock, three sorts

Jasmine

Lavender

Lilium Corvalliun

Marigold

Melilot

Orange

Poppy, Red

Roses } Red
 } Damask
 } Musk
 } Bryer

Saffron

Sage

Stachas

Tilia or Lindentree

Thyme } Garden
 } Limon
 } Wilde

Woodbind (or Honey-suckle.)

SEEDS.

A Nise
 Angelica.

Basil

Caraway

Cardamums

Cresse, Bank

Chervil, sweet

Coriander

Emmmin
 Fennel, Sweet
 Grains of Paradise
 Mustard
 Radish
 Rocket
 Scurvy-grass, Garden
 Wormwood, common

FRUITS.

Appricocks
 Almonds Berries
 Barley, Malted
 Cardamoms
 Cherries
 Currans } Forain
 } English
 Cubeb
 Cloves
 Grapes
 Hops
 Juniper Berries
 Mace
 Nutmegs
 Pepper } White
 } Long
 Quinces
 Raspis, Red
 Raisins, sol.
 Strawberries
 Saffron

Walnuts green with husks
 Zedoary.

JUICES.

Lemons
 Walnuts green with Husks.

Others of divers kinds.

Ambrogiate
 Allum
 Benjamin
 Camphire
 Confection of Alkermes
 Mitridate
 Musk
 Treacle, Venice
 Syrup of Gilliflowers
 Storax
 Sugar of divers sorts.

Liquid Materials.

Wines of all kinds
 Beer and Ale
 After-Worts, or Wash
 Sugar Waters
 Tilts, Dregs, Lees, or Grounds of
 Beer or Ale
 Lees of Wines
 Spirits of Wine
 Rose-water.

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Pray Sir, be pacified, there is no harm done. As I have told you before; so I say again, leave it to God to reconcile his own wills, and let us follow that which he hath revealed in his Word. But you say, *The voice of this destroyeth all the testimonies which God giveth of himself. What shall we do with those Scriptures where he saith, he alters not, if there be a secret Will of his that controuls his revealed?* page 81. In this also you may hold your self content, for the Scriptures which say God alters not, are understood concerning his will of Decree, which for the most part is secret to us. But for his revealed will, in the declaration of mercies and judgments, he doth many times and upon sundry occasions alter his promises or threats. For these are not made according to his absolute and eternal Decrees, but are suspended upon outward conditions, as in the case of the Ninevites, & *Hezekiah* forealledged. In this case the outward revelations of the will of God are but subservient to his eternal Decree. And though they seem to our understanding to differ, yet they do excellently agree among themselves. Now last of all you come to your chiefest argument, *You cannot see, say you, how such a wil can agree with the death of Christ and the general tenders of grace.* These are your words, *I fear me too many have a hand in nourishing and maintaining this opinion, and then no marvel that so many cannot beleve the record that God gave of his Son. So when God sweareth by himself, as he liveth, he desireth not the death of him that dyeth, and that he would have no man to perish, but that he gave his Son a light unto the world that all men thorough him might beleve, for which purpose he tasted death for every man, and not for the Saints onely, but also for the sinnes of the whole world. But these sayings are but the revealed will, and the same people that hold this revealed will to be a guide to themselves, do yet hold a contradiction in the Wills of God, saying, it is true, God saith so, but his meaning is not so. Now this sort of people should not beleve the revealed Will at all if they hold his secret will to be the Superiour,* pag 81. 82. I say the same as formerly, though the secret will of God be the Superiour, yet we are to look to that which is revealed. As for those who affirme that the Lord hath chosen a peculiar number of people from the beginning to salvation, If you go to them man by man, I think you will scarce finde any one of solid

judgment that will tell you we must begin at the knowledge of the secret will of God. They all say, that you must begin first with the general threats and the general promises; and when men are once brought thorough the convictions of the spirit to see their miserable and lost condition, then they say they are fit auditors of the doctrine of the Gospel in the tenders and the offers of grace. When the promise is apprehended by a true and a lively sight, the next work they say is to attain the *manerzoeia* and full assurance of faith. And then last of all after many experiences cometh the assurance of election. In this method they proceed in the discovery of this mystery, and not otherwise. Though election be first in the Lords intention, yet they hold that the assurance thereof is and ought to be the last in our feeling. And so they expound the words of the Apostle, *give all diligence to make your calling and election sure*, 2 Pet. 1. 10. And further, though they maintain an assurance of election, yet they do not hold an absolute certainty, but such a one as is lyable to many temptations, desertions, and eclipses. Neither do they hold such an immediate assurance as though the elect by intuition did look into the Decrees of God; onely they stand for a mediate and discursive knowledge of the grace of election by the necessary effects and fruits thereof. As you know the rising of the Sunne by the dawning of the day. What other knowledge is this of the secret will of God, but that which he himself hath first made discovery of by the fruits?

As for the secret will of God in the Decree of non-election, though they do beleieve according to the Scriptures that there are a great multitude of men that the Lord doth intend to passe by, yet if you come to singulars, neither you nor any man living can shew who they are in special. If you shall say that such and such a one is a notorious evil doer, and therefore a reprobate. *Ananias* thought but little better of *Paul*, *Lord I have heard of this man how much evil he hath done*. But the answer was, *go thy way I have made him a chosen vessel unto me*, Act. 9. 14. If such a one hath continued many years under the means of grace, and doth yet stand out in impenitency and hardnesse of heart: this is no infallible argument of non-election, for men may come into the Vineyard at all houres. So

farre forth as men live wickedly we may preach hypothetically and conditionally, according to the revealed will of God, that their courses are damnable, and as long as they so continue they are in the way to damnation: yet we cannot absolutely pronounce concerning the persons themselves, it belongeth onely to God to judge of their final and eternal condition. And for that place which you alledg, *that God/weareth that he desireth not the death of him that dyeib*, I pray you now tel us the particular man in our method and way of teaching hat is not a capable hearer of this doctrine. Whatsoever God doth intend in his secret Decrees concerning the eternal state of men what is that to us? We must make the tenders, proposals and offers of grace according to the termes set down in the Gospel. Indeed, as men do submit to the promise and do take Christ for their Head, so God doth bring about that which he hath determined in his secret will. And therefore when you speak concerning this sort of people, *That they should not beleeeve his revealed will at all, if they hold his secret will to be the Superiour*; what good reason can you shew for that? for though the secret will of God touching the salvation of his elect be the Superiour, yet all the tenders of grace, all faith in the promises are but the ordinary way to bring us to salvation. Here is no contrariety of will against will, but an excellent subordination. Because the Lord had many people in the City of Corinth that did belong to him in the determination of his secret will, therefore the Apostle had a command to preach the Gospel in that City, and he did continue there the space of a year and six moneths, *Acts 18. ver. 10, 11.* But if it be further objected, *how can you pray for the salvation of all, seeing that the Lord doth determine to passe by a great number of men?* I answer, though it be so, we are to do the duty. Paul did know that a greater part of the Jewes should be hardened, and that a remnant onely should be saved; yet for all this he did preach the Gospel, and use all means that he might save some of them, *Rom. 11. 7, 8, 9, 10.* Augustine, one of the greatest assertors of the prerogative of free-grace, in his book *de correptione & gratia* hath these words, *We not knowing who belong to the number of the predestinate, and who not, ought so to be moved with the affection of cha-*

rity that we should will all men to be saved. And so far as
 it doth appertain to us who are not able to distinguish the
 predestinate from them who are not predestinate, for this very
 thing because we ought to will all men to be saved, we must
 medicinally use sharp reproof to all men to save them from
 perishing. Dr. Twisse also hath these words, moreover of those
 who are now alive, though the greater part of them should be
 reprobated, seeing this is not known to us, there is nothing doth
 hinder but we may make supplications for all. *Vindic. grat.*
lib. 2. Crimin. 4. Sect. 9 Page 91. Many more testimonies
 I might bring of that kind of people as you call them who
 maintain the secret will of God to be the more prevailing, yet
 in order to our understanding they shew that we are to look
 onely unto that which is revealed. They do with one heart
 and with one mouth declare that you must begin at the lower
 end of the ladder before you can come to the top. As for the
 secret and the revealed will of God, though this seem to us to be
 contradictory, there is no contradiction. The river that in appea-
 rance seemeth to go another way, if you follow it by divers ma-
 zes & turnings it will bring you to the Sea at last. But if you fur-
 ther urge, how can the sending of Christ into the world to dy for
 the lost sonnes of men stand with the Decree of election, where
 some onely are chosen to salvation? *Ans.* This point is solidly
 handled by Dr. *Davenant*, in his answer to that book that
 bears the title *Gods love to mankind*; and in another Treatise
 of the death of Christ. The scope and tenor of the whole dis-
 course is to shew that the non-elect may be partakers of many
 fruits of the death of Christ, though they are not partakers of
 that grace which will certainly and infallibly bring them to sal-
 vation; and so he doth concord the general attonement with the
 peculiar Decree of election. But because this point is exceed-
 ingly controverted in these times, and is as it were the very rock
 of offence, I will particularly shew how farre I can go along
 with you. First, I do agree that by his death the Son hath re-
 moved the bar out of the way that hinders the salvation of man.
 For God having once made a Law, *in the day that thou eatest
 thereof thou shalt dye the death*, according to the rigour of the
 Covenant of works and the strictnesse of divine justice there

